Member Associated Business Papers, Inc.

The Newspaper of the Industry

Member Audit Bureau of Circulations.

AIR CONDITIONING AND REFRIGERATION News

Issued Every Monday at 450 W. Fort St., Detroit 26, Mich.

MAY 6, 1946

Vol. 48, No. [illegible] Serial No. 894

Established 1926.

PUBLIC LIBRARY MAY 8 1946 DETROIT

Reentered as second-class matter October 3, 1936 at the post office at Detroit, Michigan, under the Act of March 3, 1879. Trade Mark Registered U. S. Patent Office. Copyright, 1946, by Business News Publishing Co.

INSIDE DOPE

by GEORGE F. TAUBENECK

Stories of the Week
You Can't Argue With This
The Bare Facts
Uncle John—Left-Wing Version
Get on the Ball!
One Amongst All

Stories of the Week

George Trautman, general manager of the Detroit Tigers baseball club, told friend Tony Beltaire a nifty about a lad he was trying to sign up to play baseball for one of the Tiger's farm teams.

"Your last offer," wired the youngster, "was so absurd that I am breaking off negotiations forever. My telephone number is Nashville 3058."

Steve O'Neill, manager of the Tigers, also was moved during the week to recall the days when Tom Sharkey, a great heavyweight boxer of yesteryear, traveled around the country giving exhibitions. He'd offer $50 at each show to any of the local yokels who could stay four rounds with him.

A big fellow by the name of Tom Jones, who was then playing first base for Detroit, took him on, lasted the four rounds, and collected the $50. His doctor bill for facial repairs, however, was $70!

You Can't Argue With This

Good friends and casual acquaintances, most of whom ought to know better, have given us considerable anguish this year by making such remarks as:

"Oh, the manufacturers are just creating artificial shortages so that they can force the American people to pay outrageous prices for their stuff. They're making plenty right now, you bet, but they see a terrific demand ahead and they mean to cash in on it for all they can squeeze out of us."

They just didn't believe us when we'd argue that plant after plant we'd visited was losing money hand over fist; that only a sense of honor and a desire to keep up a competitive position as best they could kept the manufacturers from closing their doors entirely.

The government had forced wages up; had held prices to an unrealistic low. In the meantime, materials costs had shot skyward, deliveries of needed parts were interrupted by strikes, labor refused to turn out as much work as the producers had expected, and it was difficult to keep assembly lines going. Net result: net losses.

The first-quarter financial statements are beginning to appear, and the first two we have seen prove this point beyond question. Quote:

"Materials shortages and labor upsets in supplier plants contributed to the net loss of $1,152,775 by Nash-Kelvinator Corp. for the quarter ended March 31, according to George W. Mason, president.

"He reported that the loss for the period before tax adjustment was $2 684,775, but estimated recoveries under carryback features of the tax law amounted to $1,532,000.

"The figures compare with a profit of $510,258 for a like period a year ago. The first six months current loss was a net $1,791,633 after estimated tax recovery of $3,848,000."

"General Electric Co. reported for the first quarter of 1946 a net loss of $13,701,580, compared with a profit of $11,762,662, or 41 cents a share, in the first 1945 quarter. Charles E. Wilson, president, said the loss was due to the strike of nine weeks and estimated the company's federal in-

(Concluded on Page 14, Column 1)

Kalamazoo Stove's Refrigerator Due In Several Months

KALAMAZOO, Mich. — It's true that the Kalamazoo Stove Co. here will merchandise a household electric refrigerator under its own name, but it may be several months before floor stocks begin to appear in dealer showrooms.

Officials of the company explained that "there can be no general announcement on our refrigerator line because we have nothing to show or talk about at this time" when questioned following the appearance of a refrigerator as part of the Kalamazoo appliance line in a double-page advertisement in the April 29 issue of *Life* magazine.

The *Life* advertisement, it was explained, had been contracted for many weeks ago at a time when it seemed likely that some models would be available at the time that the advertisement was to appear. However, difficulties resulting from strikes and material shortages have served to retard production of the Kalamazoo line.

In addition to the refrigerator Kalamazoo will introduce a line of home laundry equipment. Purpose of these moves is to round out a complete line of appliances for Kalamazoo dealers, who are appointed on an "exclusive" basis.

Company officials would not discuss details of the design or production plans for the refrigerator line, other than to say that the cabinet design would be "new and exclusive." It is generally believed in the industry that the refrigerator will not be produced at the Kalamazoo plant.

Price Boost Limited To New Shipments

DETROIT—Only those household mechanical refrigerators shipped from the factory after April 18 will have the new ceiling prices resulting from the 8% increase granted to manufacturers, effective on that date.

Models stored in distributor or regional factory warehouses prior to that date will be "tagged" with the old prices. Dealers will have to sell their floor samples (if they have any around) at the old prices.

It has been learned that OPA field men have been doing some spot checking in dealer stores to learn if these pricing rules are being observed.

Appliances Up In March; Drop Seen for April

WASHINGTON, D. C.—Shipments of major appliances rose markedly during March, according to estimates made by the Civilian Production Administration, but the agency expects a drop in April totals because of the coal strike.

Mechanical refrigerator shipments during March jumped to 89,000, a 42% increase over the 63,000 figure reported for February. The March shipments, however, were off 26% from the postwar high of 123,000 machines shipped during January.

A 30% increase over February was estimated by CPA for March shipments of washers and ironers. March totals were 117,000 units, compared to 90,000 in February. Although 171,000 units were shipped in January, that figure does not represent the true production figure for the month because many machines were released then which had been held up awaiting component parts, according to CPA. March shipments amounted to 74% of the 158,000 monthly rate estimated in 1940-1941.

Electric range shipments were estimated at 16,000 units in February, with an increase expected for March. This was 35% of the 47,000 monthly prewar production.

March shipments of vacuum cleaners were about 150,000, a 17% rise over January and February shipments of 120,000 units, and within 3% of the 156,000 average monthly production figure prevailing in 1940-1941.

Electric iron shipments in February were estimated by CPA at 308,000, which represents a 9% jump

(Concluded on Page 29, Column 5)

Program Announced for ASRE Meeting June 2-5

NEW YORK CITY—A tentative program has just been announced for the Spring meeting of the American Society of Refrigerating Engineers, June 2-5 in the Twin Cities, Minneapolis-St. Paul, with headquarters at the St. Paul Hotel.

The Twin Cities Section of the A.S.R.E. will be the host of the convention and is arranging for a full program of technical sessions and entertainment, including sightseeing

(Concluded on Page 4, Column 4)

Kelvinator First Quarter Report Reflects Obstacles to Production of Appliances

DETROIT—Nash-Kelvinator Corp. reports a net loss of $1,152,775 for the second quarter ended March 31. Loss for the period before tax adjustment was $2,684,775, but estimated recoveries under carryback features of the tax law amounted to $1,532,000. This loss represents reconversion expenditures in addition to production holdups resulting from material shortages, indicated the company.

This compares with a profit of $510,258 for the like period of a year ago. The first six months of the current fiscal year shows a net loss of $1,791,633, after estimated tax recovery of $3,848,000, against a profit of $1,029,425 for the comparable period of the previous year.

George W. Mason, president, said that most of the reconversion expenditures were encompassed in the first quarter. The corporation has been ready for some time to produce Nash automobiles and Kelvinator appliances in record volume, he said, but production during the March quarter was severely handicapped by strikes in supplier plants and critical shortages of materials.

"Although many of the difficulties encountered during the first half of this fiscal year are still with us, there are reasonable probabilities that the June quarter will show great improvement," Mr. Mason declared. "The immediate future remains clouded, however, particularly because of the unreliable flow of materials, which holds production schedules to a day-to-day basis, and because of generally adverse conditions affecting all industry.

"At the same time, our facilities are and for months have been fully prepared to move rapidly toward our postwar production goals of 1,100,000 appliances and 250,000 automobiles annually.

"During March, the Kelvinator Division production of appliances was at a standstill until the last week of the month due to material shortages, with the result that only 4,000 units were produced. April output should exceed 20,000 units."

Mr. Dealer: There's Still Time to Wire Your Senators

DEALERS ARE writing their Senators, recommending that the OPA be shackled (see editorial on front page of the April 22 issue of the NEWS). Interesting samples of the action they are taking are reprinted below.

But this is no time to "let George do it." If You Mr. Appliance Dealer, have not written that letter to your Senator yet, *do it today.* Otherwise you may not get much to sell, or be able to realize a profit on what you do.

Led by the CIO, the following well-organized minority pressure groups are bombarding the Senate with letters favoring extension of the OPA without *any* amendments or restrictions: C.I.O., A.F. of L., National League of Women Shoppers, National Congress of Parents and Teachers, National Farmers Union, National Council of Catholic Women, National Council of Jewish Women, and the National Association for Advancement of Colored People. That's real competition, brother. Write your letter today!

Electric Utilities, Inc.
Newnan, Ga.

Editor:

We are rapidly reaching the point where we are too poor financially and too weak physically to protest much longer. A copy of our telegram, inspired by your fine editorial, is enclosed.

H. H. HECK, President

* * *

(Following is the telegram which Mr. Heck sent Senators Walter F. George and Richard B. Russel):

We small electrical appliance dealers feel that the OPA with bullheaded and unsound theorizing has been the responsible factor in strangling and stagnating the whole reconversion program. With our profits curtailed to an all-time low and our costs to operate spiraling our prospects of even remaining in business are very much in doubt.

We urge your support to the extent of either passage of OPA bill similar to House bill or scrapping entirely the Bowles and Porter combination together with all the childish business sense they propound. We are for intelligent price control on a workable basis but the samples we have had haven't worked and won't work.

H. H. HECK

F. B. Connelly Co.
Seattle, Wash.

Editor:

That you may know how much good you are doing in the world I want to tell you what is happening here in the northwest as a result of your front-page editorial in the April 22 issue.

A local publisher of a dealers' trade magazine with a circulation throughout Washington, Oregon, Idaho, and Montana, is reproducing high points of your story on a jumbo card and working his press overtime to get it in the mail tomorrow.

The secretaries of two local dealer associations are sending mimeographed letters to their members, reproducing your article, and adding information concerning the names and addresses of northwest Senators.

It is extremely unfortunate that your editorials do not have wider circulation—readers in merchandising fields outside the refrigeration industry—because you are "tops" in the ranks of columnists and your subjects are invariably so important and always written in a factual and forceful manner.

KENNETH CONNELLY

Repair Parts For Appliances Get Price Boost

OPA Grants Same Increase Which Was Given for Finished Articles

WASHINGTON, D. C.—Ceiling prices of repair and replacement parts for household mechanical refrigerators, domestic laundry equipment, vacuum cleaners, and gas ranges are being given the same percentage increase allowed for the finished article, OPA announced April 29.

The action does not apply to the parts that go into the production of the articles.

Manufacturers of the finished articles, who price their repair and replacement parts which they sell under the General Maximum Price Regulation, may increase their prices on these articles regardless of whether they make the parts themselves or purchase them for resale. Similarly, manufacturers of parts who sell directly to wholesalers and retailers may increase the price, even though they do not themselves make

(Concluded on Back Page, Column 1)

Pair Organizes Firm To Make Evaporators

ADRIAN, Mich.—A new firm for the production of aluminum plate-type evaporators for commercial refrigeration applications has been organized here by Allen L. Goldsmith and Charles Hickman, plant manager and superintendent, respectively of Bohn Aluminum & Brass Corp. Plant No. 13, where Bohn manufactures refrigerator evaporators.

Operating as Brazeway Co., Mr. Goldsmith and Mr. Hickman also plan to fabricate household evaporators in limited quantities and will specialize on development engineering work in all phases of refrigeration.

Production is scheduled to begin about the middle of June in temporary headquarters established at 303 S. Dean St. here, it was announced.

Mr. Goldsmith has managed

(Concluded on Page 4, Column 5)

4 Admiral Refrigerators Assigned OPA Ceilings

CHICAGO—OPA's table of retail ceilings for 1946 household refrigerators was recently amended to include maximum prices for four models produced by Admiral Corp.

Effective April 24, Amendment 10 to MPR 598 added the following Admiral models and ceilings to section 24, Appendix A:

1946 Model No.	First Zone*	Second Zone†	Third Zone‡
CS-746A	$189.95	$194.95	$199.95
CS-946B	219.95	224.95	229.95
CD-746	239.95	244.95	249.95
CD-946	269.95	274.95	279.95

*The first zone consists of the following States: Illinois, Indiana, Ohio, West Virginia, Kentucky, and Missouri.

†The second zone consists of the following States: New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Delaware, Pennsylvania, Maryland, Tennessee, Alabama, Georgia, Mississippi, South Carolina, North Carolina, Virginia, Wisconsin, Michigan, Nebraska, Kansas, Minnesota, Iowa, South Dakota, North Dakota, Arkansas, Louisiana, Maine, and the District of Columbia.

‡The third zone consists of the following States: Arizona, California, Colorado, Florida, Idaho, Montana, Nevada, New Mexico, Oklahoma, Oregon, Texas, Utah, Washington, and Wyoming.

MODERN

One member of a complete quality line . . . designed to be salable in volume at a profit.

Refrigerated Meat Display

Recognized as quality products, SHERER Refrigerated Meat Display Cases will continue to be built to those same high standards that have earned them their present outstanding position in the industry.

SHERER
COMMERCIAL REFRIGERATORS
SHERER-GILLETT CO., Marshall, Michigan

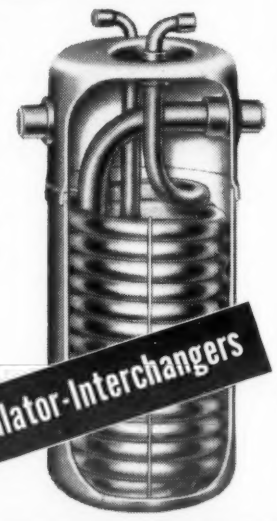
VEGETAIRES • DAIRY CASES • REACH-IN
REFRIGERATORS • WALK-IN COOLING ROOMS •
MEAT & DELICATESSEN DISPLAY CASES •

Temprite ACCESSORIES CUT OPERATING COSTS AND INCREASE EFFICIENCY!

The Temprite "Oilrite" automatic oil separator retains the compressor oil in the crankcase, permits the refrigerant to work at its true boiling point, increases heat transfer of the evaporator and prevents scored parts and burned bearings. Sizes from $\frac{1}{6}$ H. P. to 60 tons.

Oilrite Oil Separators

The Temprite accumulator interchanger traps and evaporates any liquid refrigerant that may spill over from the evaporator. A liquid line, suction line heat exchanger which increases system capacity and prevents damage to the compressor.



Accumulator-Interchangers

Temprite equalizer tanks eliminate short cycling of the condensing unit by storing refrigerant gas on the suction side of the system. Reduces wear on motors, belts and controls and also reduces power consumption.

Equalizer Tanks

Temprite two temperature valves assure *accurate* control of evaporator temperatures. Extremely rugged and extra sensitive, these valves have large capacity and a wide range of adjustments.

Two-Temperature Control Valves

TEMPRITE PRODUCTS CORP.

Originators of Instantaneous 80° 40° *Liquid Cooling Devices*

43 PIQUETTE AVENUE DETROIT 2, MICHIGAN

Prices Boosted 13.1% On Warren Commercial Refrigeration Line

ATLANTA—An increase of 13.1% on established manufacturer's maximum prices has been granted to the Warren Co., Inc., for sales of its line of mechanically operated commercial refrigeration equipment, including display cases, reach-in and walk-in refrigerators of over 16-cu. ft. capacity, and refrigerated beverage coolers, according to OPA Region IV Order G-1 under Rev. SO 119.

All allowances (including freight allowances), discounts, commissions, differentiations in classes of purchasers, and other differentials customarily made by the Warren company shall be maintained, OPA specified.

Any person purchasing any of the above Warren equipment for resale is permitted to increase his present properly established ceiling price by a dollars and cents amount not to exceed his actual increase in cost resulting from this order.

White-Rodgers Gets 36% Price Increase

ST. LOUIS—White-Rodgers Electric Co. has been authorized by OPA to determine ceiling prices on its line of automatic electric temperature controls as defined in Order 48, MPR 591, by increasing prices on these items in effect Oct. 1, 1941, by 36% to each class of customer, according to Order 150, Rev. SO 119.

If the properly established prices established under MPR 591 are higher than those determined by the above method, the manufacturer is permitted to continue using those prices, since this order is not intended to effect a reduction.

The above prices are subject to discounts, allowances (including transportation allowances), and price differentials at least as favorable as those the manufacturer would have extended to each class of purchaser on commodities in the same general category, OPA said.

All resellers of White-Rodgers automatic electric temperature controls were ordered by OPA to determine their maximum prices by multiplying their acquisition cost by their mark-up factor in effect on April 11, 1946.

This order, OPA specified, does not authorize a manufacturer who sells White-Rodgers controls in assembly with another item to increase his maximum prices for the assembled item.

Freezer Line Priced For Complete Refrigerator

NEW YORK CITY—Twelve models of freezer display cabinets manufactured here by the Complete Refrigerator Supply Co. here, were assigned the following ceiling prices by OPA Order 417, MPR 591, for sales to distributors, dealers, and consumers:

Model	On sales to—Distributors	Dealers	Consumers
C 15 SCG, ½-hp. condensing unit	$492.50	$591	$ 985
C 15 SCO, ½-hp. condensing unit	492.50	591	985
C 20 SCG, ½-hp. condensing unit	592.50	711	1,185
C 20 SCO, ½-hp. condensing unit	592.50	711	1,185
C 20 RG, ½-hp. condensing unit complete, installed	622.50	747	1,245
C 20 RG, less compressor, no installation	547.50	657	1,095
C 20 RO ½-hp. condensing unit complete, installed	622.50	747	1,245
C 20 RO, less compressor, no installation	547.50	657	1,095
C 30 RG, ¾-hp. condensing unit complete, installed	722.50	867	1,445
C 30 RG, less compressor, no installation	622.50	747	1,245
C 30 RO, less compressor, no installation	622.50	747	1,245
C 30 RO, ¾-hp. condensing unit complete, installed	722.50	867	1,445

The above prices are subject to the usual discounts, allowances, and the extension of services at least as favorable as those extended to purchasers of the same class on comparable sales on Oct. 1, 1941, OPA said.

York Nets $353,709 In 6 Months Despite Materials Shortage

YORK, Pa.—Reporting on operating results for the first six months of the current fiscal year, York Corp. announced a net profit of $353,709, compared to $623,700 a year ago.

Profit for the 1945-46 period, which ended March 31, is equivalent to 38 cents a share, compared to 67 cents last year, the corporation said.

In making the report, S. E. Lauer, president, pointed out that despite many handicaps to production throughout the quarter ended March 31, "we were able to add $16,172 net profit to the $337,537 reported for the preceding quarter."

York reported $8,197,596 in completed sales and $6,025,029 in partly completed contracts for a total sales of $14,222,625 during the period ended last March. The totals for the same period last year were $11,822,400 in completed sales, $8,933,207 in partly completed contracts, and $20,755,607 in total sales.

This year's net profit before income and excess profit taxes and contingency charge was given as $764,995, contrasted to $2,696,700 last year. A total of $411,286 was reserved for estimated taxes this year, while the figure for last year was $1,969,000.

In the 1944-45 period, $104,000 was earmarked as a provision for war and postwar contingencies.

Orders booked during the half-year totaled $19,336,826 and uncompleted orders not included in sales $20,581,663. These figures were compared to $13,354,789 in orders booked and $19,207,855 in uncompleted orders during the previous comparable period. York said the totals for the 1945-46 period did not include approximately $10,000,000 of orders on hand March 31 from distributors and for accessory equipment, supplies, and service which are not recorded until shipped.

Mr. Lauer explained that strikes and other hindrances in suppliers' plants had "played havoc" with production. The result, he declared, "is a condition of unbalance with restricted shipments and adverse effects on profits.

"Wages and salaries were further increased, through collective bargaining . . . as the result of a national pattern which found its origin in Washington and was promptly reflected in this local area," he said. "While there were no strikes or irritations of any kind in our plant, we felt that it was only fair to our loyal employes to meet this situation and avoid unnecessary dislocations."

Mr. Lauer called attention to "the difficulties that result from the fact that our selling prices are still generally 'frozen' at the October, 1941, level while material costs, labor, salaries, and many other costs of doing business have steadily advanced." However, he said there seems to be "some possibility of partial relief in the near future."

"In the face of these disturbing conditions we nevertheless are continuing to plan boldly for enlarged production to meet the growing demand for our products—with the hope that the near future may bring a resumption of the national teamwork that made America great."

Fleetwood Dough Cooler Ceiling Set At $990

FLEETWOOD, Pa.—OPA has authorized a ceiling price of $990 for Fleetwood Equipment Corp.'s dough retarding refrigerator, Model DR-466.

Other ceilings established by Order 426, MPR 591, are: to distributors, $495; to dealers, $594.

Barlow Water Cooler Unit Will Retail For $265

NEW YORK CITY—An electric water cooler—Model CP10—manufactured by Barlow Engineering Co. here will retail for $265, according to Order 446 recently issued by OPA under MPR 591.

Other ceilings established for the unit are: to national sales agency, $132.50; to distributors, $150; to dealers, $185.50.

Frigidaire's new schooling idea strengthens partnership of Dealer . . . District . . . Factory

● A new program of schooling, greater in detail and wider in scope than ever before in Frigidaire's history, was recently begun at the Frigidaire factory.

This new and totally different training program recognizes the changes of the last four years. . . . the many variations of old problems which will soon prevail in the retail appliance business; and is planned to reach all District personnel, including dealers and salesmen.

The program calls for a continuing series of schools at the factory. All District Representatives and other executives of Districts and Factory, foreign and domestic, are enrolled. Many have already completed the required two weeks of intensive training.

By complete analysis and discussion of each individual Dealer problem, the District Representative receives up-to-the-minute information on dozens of subjects, such as: "Hiring, Training, and Compensating Salesmen," "What To Look For When Signing a Lease," "Making Money In The Replacement Business," etc., etc. Thus, he gains the knowledge necessary to enable him to help the Frigidaire Dealer with his many problems . . . . the kind of knowledge that will broaden and tighten the feeling of partnership that has always existed among the Frigidaire Dealer, District, and Factory.

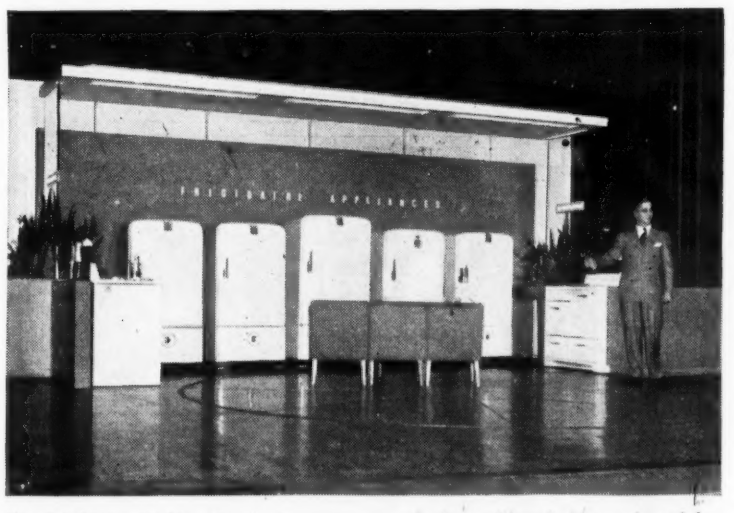
Here, then, is another example of Frigidaire's Leadership. Another proof of Frigidaire's awareness of the needs of its Dealers. Another reason why Frigidaire Dealers can . . . Depend on Frigidaire To Do Things — Right!

And to all of this has been added
Frigidaire's Outstanding
QUALITY
AND
DEPENDABILITY
.... resulting from more than a quarter century of building fine products for homes stores and industry

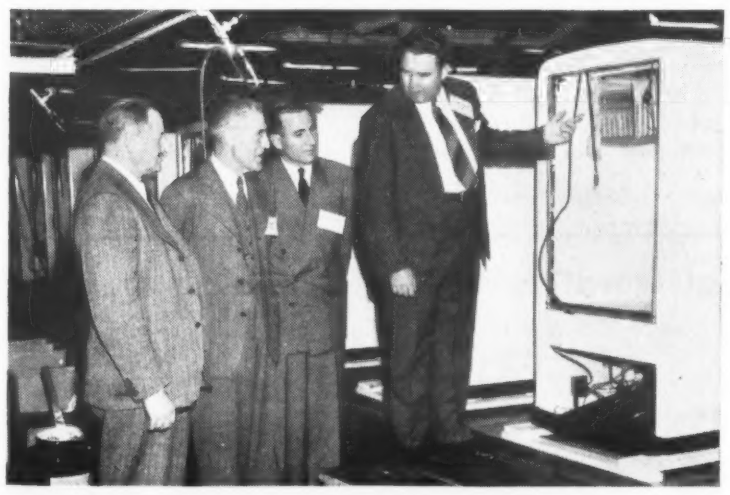
Ellsworth Gilbert, Sales Promotion Mgr., . . . receives congratulations for his entire staff from P. M. Bratten, General Sales Manager, at the close of the first school, for producing and directing the course of study which requires nearly two weeks, many evenings included.

The "Happy Faculty". . . of Frigidaire's new schooling program lines up for applause from the student body at the close of the first school held in Dayton. "After hours" tutoring was encouraged by the faculty, and many of the students took advantage of the opportunity to learn all that they could from the experts who conceived, planned, produced, and conducted the course of study.

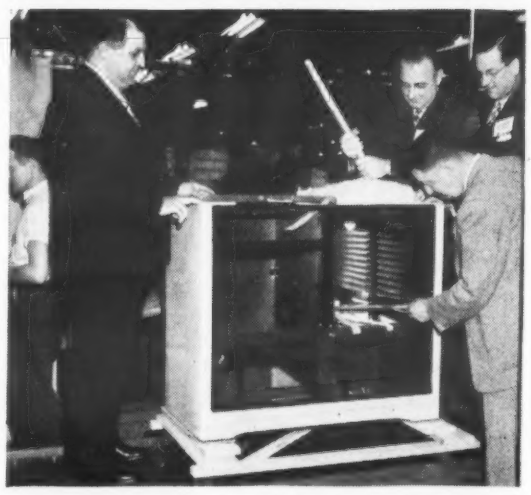
Depend on FRIGIDAIRE to do things RIGHT!



The Frigidaire "Selling Station" . . . a new dealer selling help produced by Frigidaire, is explained, and its merits outlined by Insco Williams, Ass't. Adv. Mgr. Another feature in Frigidaire's over-all plan to meet today's new and different selling problems.



Actual Production Operations . . . are part of the curriculum of the new school. All students see and have explained the construction of Frigidaire refrigerators, electric ranges, and other producrs; later taking tests on their knowledge of Frigidaire's construction features.



Learning Firsthand . . . how the Frigidaire Electric Range is built, was part of the job of P. L. Preston . . . W. H. Waade . . . T. H. Dempsey . . . and C. O. Nessler, as they helped insulate an oven liner.

Actually Cooking A Meal . . . on a Frigidaire Electric Range is a part of the new schooling idea. "Learning by doing" makes District Representatives completely familiar with the way the product operates . . . enables them to pass this information along to dealers and salesmen.

You're twice as sure with two great names

Frigidaire *made only by* **General Motors**

REFRIGERATORS • ELECTRIC RANGES • ELECTRIC WATER HEATERS • HOME FREEZERS • KITCHEN CABINETS
COMMERCIAL REFRIGERATION • AIR CONDITIONERS • ICE CREAM CABINETS • BEVERAGE, MILK, AND WATER COOLERS

J. P. RAINBAULT

RONALD D. GRAY

Ebco Appoints Rainbault Pacific Coast Head; Southeastern District Managership Goes to Gray

COLUMBUS, Ohio—John P. Rainbault and Ronald D. Gray have been appointed district managers of the Ebco Mfg. Co.'s Oasis Cooler Division in the Pacific coast and southeastern states respectively, Lee C. Love, Ebco general sales manager, has announced.

Mr. Rainbault will supervise Oasis water cooler sales in California, Oregon, Washington, and Nevada. His headquarters will be in San Francisco.

Mr. Gray will direct Oasis Electric Cooler Sales in Florida, Alabama, Georgia, Mississippi, Tennessee, North Carolina, and South Carolina, from his headquarters in Jacksonville Beach, Fla.

Prior to setting up his own firm on the Coast, Mr. Rainbault was manager of the Air Conditioning and Commercial Refrigeration Department of the General Electric Co. Mr. Rainbault has resident key representatives in the important cities of his district.

Mr. Gray has spent his adult life selling water coolers and commercial refrigerators. He progressed step by step from ringing door bells to top national volume producer for the Westinghouse Commercial Department in 1942.

Industry Feels Effect Of Soft Coal Strike

DETROIT — Effect of the coal strike on steel, brass mill products, and foundry items was beginning to be felt in the refrigeration and appliance industries.

A shortage of castings had forced the closing of the Gibson Electric Refrigerator Corp. plant, but plant officials were hoping that the plant could re-open by May 6.

Steel production had dropped from a level of 88% of capacity before the strike to between 60 and 70% of capacity, and the drop will be more precipitous from now on if the coal strike continues.

The American Iron and Steel Institute estimated that approximately 1,000,000 tons of ingots and steel for castings had been lost up to April 30. This loss is only part of the toal loss, for after the strike ends, some time will be required to restore operations of the steel industry to the pre-strike level.

G-E Names Luttenbacher

MINNEAPOLIS — Appointment of H. R. Luttenbacher as local manager of the Minneapolis appliance sales office of the General Electric Co. has been announced by J. S. Strecker, manager of appliance sales in the North Central District.

Educated at Albion College and Columbia university, Mr. Luttenbacher was Detroit regional manager of the Maytag Co. before he joined G.E. in 1935 as district representative of home laundry equipment. He has since held positions in sales and product service divisions.

A.S.R.E.--

(Concluded from Page 1, Column 3)

trips and fishing in the famous Minnesota lakes.

Following is the tentative program of the meeting:

SUNDAY, JUNE 2

Advance registration and committee meetings.

MONDAY, JUNE 3

C. S. Leopold, Philadelphia, President of A.S.R.E., presiding.

"A New Psychrometric Chart"—E. P. Palmatier and D. D. Wile, Carrier Corp., Syracuse, N. Y.

"Heat Flow Through a Complex Wall Structure"—Prof. C. F. Kayan, Columbia University, New York, N. Y.

"Microbial Controls in the Refrigerated Warehouse"—W. L. Mallmann, Michigan State College, Lansing, Mich.

Welcome Luncheon.

Monday afternoon will be devoted to scenic rides, inspection tours, golf tournament, and committee meetings.

TUESDAY, JUNE 4

The Tuesday morning session will be presided over by Roland H. Money, vice president of A.S.R.E., and general chairman of the Technical Committee and will consist of an air conditioning conference at which this subject will be discussed from various angles and the following papers presented:

"Application Practices Necessary for a Quality Job"—Ty Fenn. of C. S. Leopold, Consulting Engineer, Philadelphia.

"The Role of Consulting Engineers in Upholding Standards"—Sam Lewis, E. P. Heckel & Associates, Chicago.

"The Role of the Air Conditioning Contractor in Upholding Standards"—A. C. Buensod, President, Buensod-Stacey Corp., New York.

"Designing Air Conditioning Systems for Low Maintenance"—M. G. Kershaw, E. I. du Pont de Nemours & Co., Wilmington, Del.

The conference will resume after luncheon with Dr. Donald K. Tressler, Chairman of the Program Committee, presiding, when the following papers will be presented.

"Air Conditioning of Small Commercial Establishments,"—Wm. Piene, Carrier Corp.

"Air Conditioning of Office Buildings, Hospitals, Hotels, and Apartments"—George W. Meek, Consulting Engineer, Syracuse, N. Y.

"Design of Large Spaces and Industrial Installations"—Fred Wood, York Corp.

WEDNESDAY, JUNE 5

The convention will be concluded with the Wednesday morning session, presided over by Clifford F. Holske, New York City, vice president of the A.S.R.E., and the following papers will be presented:

"Technical Phases of Home Freezer Development"—C. E. Lund, Director of Research, Seeger-Sunbeam Corp., St. Paul, Minn.

"Rating and Testing Cooling Coils"—C. M. Ashley, Carrier Corp., Syracuse, N. Y.

"Conductivity of Various Materials at Low Temperatures"—Prof. G. B. Wilkes, Mass. Inst. of Technology, Cambridge, Mass.

Production Chief

H. E. KENITZ

* * *

Kenitz Named Hotpoint Manufacturing Head

CHICAGO—H. E. Kenitz has been appointed manager of manufacturing, Edison General Electric (Hotpoint) Appliance Co. He has been with the company since 1925 as superintendent in the company's several plants and later, until the present, general superintendent. He will have complete charge of all of the company's manufacturing operations.

Evaporator Firm--

(Concluded from Page 1, Column 5)

Bohn's plant here since 1939, coming from Universal Cooler Corp. where he had spent three years in the engineering department as chief inspector, household engineer, and contract work. Following his graduation from the University of Michigan engineering college in 1932, he was associated with Kelvinator for two years and later with Montgomery Ward as refrigeration buying consultant.

Mr. Hickman has been with Bohn since 1927, having served with the Capital Brass division, which manufactured refrigeration line valves, and Bohn's main metallurgical laboratory. At Plant 13 he was in charge of development as well as being superintendent.

A. J. Hirons, who managed Bohn's Plant 7 in Detroit, has been appointed manager of the Bohn plant in Adrian.

Kelvinator Adv. Agency Adds K. A. Westervelt

DETROIT—Kenneth A. Westervelt has joined Geyer, Cornell & Newell, Inc., as an assistant account executive in the Detroit office, it was announced by H. W. Newell, executive vice president.

Mr. Westervelt will assist Henry Hempstead, vice president in working on the Kelvinator division of the Nash-Kelvinator account.

From 1942 to 1946 Mr. Westervelt served with the U. S. Army Signal Corps. Before the war he was associated as a partner with the Otis A. Sibley advertising agency.

Sturdiness and long life are the keynotes of McQuay Unit Coolers for 1946. These units incorporate ripple fins and hydraulically expanded coils — proved and preferred and exclusive with McQuay.

Advanced design includes such features as heavier fan guards and motor mounts, brazed coil joints and die formed fan housings for efficient air flow. The fan has balanced blades for quiet operation, and louvers provide directional air distribution. Installation is made easier with slotted hangers. Also, smart modern styling, with a new aqua-green enamel finish, makes McQuay Unit Coolers for 1946 the greatest value ever offered. See your refrigeration wholesaler at once.

McQuay, Inc., 1607 Broadway St. N. E., Minneapolis 13, Minn. Representatives in principal cities.

McQuay INC.

AIR CONDITIONING EQUIPMENT ESPECIALLY DESIGNED FOR INDUSTRY

Refrigeration Units, Parts and Supplies

26,000 Sq. ft. of Shop and Warehouse Space

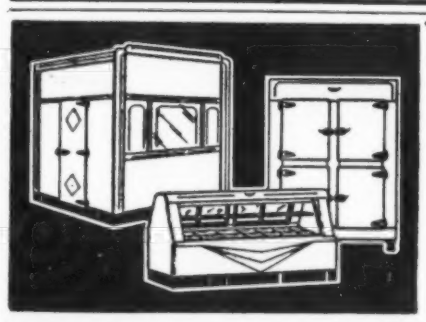
Same Day Service On Items In Stock

1946 Catalog—Will Be Released on or about June 1st

Get your name on our mailing list—Write for copy on your letterhead

SERVICE PARTS COMPANY

2511 LAKE ST. MELROSE PARK, ILL.



GET SET WITH FOGEL

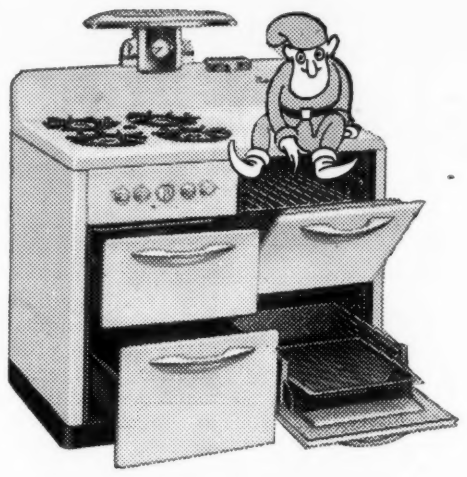
INQUIRE NOW ABOUT OUR COMPLETE LINE

INTERESTING PROPOSITION TO QUALIFIED DISTRIBUTORS

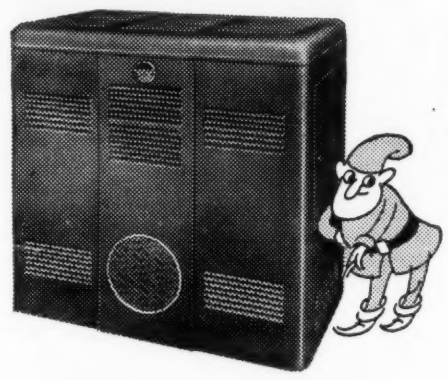
A FEW TERRITORIES STILL AVAILABLE

FOGEL · REFRIGERATOR COMPANY · Since 1899

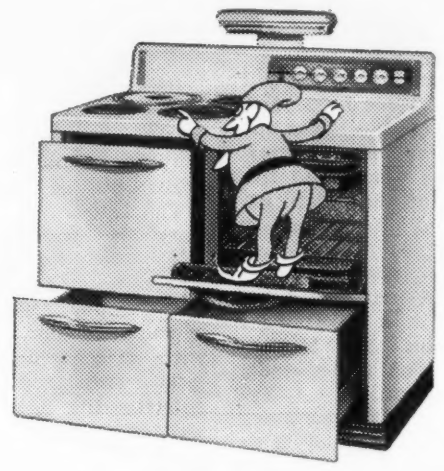
5400 Eadom St., Philadelphia 37, Pa.



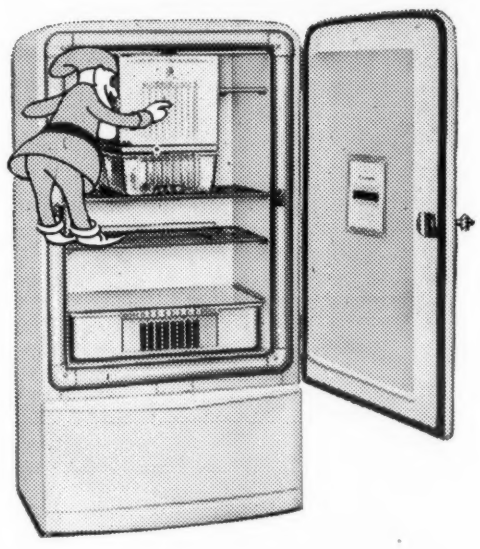
THRIFTY GAS RANGE BEAUTY • Sparkling beauty, enhanced by the easy-to-clean, *one-piece* top. • Minimum fuel bills and a cool kitchen insured by a continuous blanket of spun Fiberglas insulation . . . double layer in the oven door!



OIL-BURNING HOME HEATERS • One dial controls both oil and air flow to assure exact heat desired. • Heat distributor is porcelain-finished inside and out! – guarantees longer, trouble-free life . . . "L" shape provides 40% more heating surface!



ELECTRIC RANGE for EASY ECONOMY • Every advantage of electric cookery! • Three surface units transfer heat directly to utensils to save time and money . . . each unit has six speeds to fit every utensil or purpose. • Plus cooker well which can cook complete meal to save time and work.



IMPROVED ROLLATOR REFRIGERATOR • Famous *Rollator* cold-maker with only three moving parts, permanently sealed in oil, assures long life, quietness, economy. • Sealed freezer prevents entrance of moisture or odors and gives greater space for frozen foods.

ALL NORGE APPLIANCES HAVE

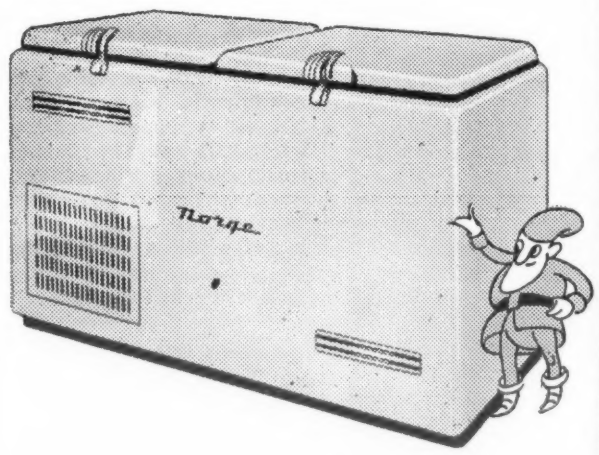
*built-in salesmanship: any feature which is an integral part of the product and which, by its obvious value, helps to make the sale.

"Built-in Salesmanship"*

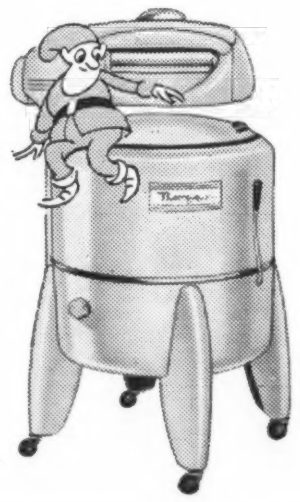
Exciting features are built into every Norge . . . features that change your customers —change them from *"just looking, thank you,"* to *"just what I've been looking for."* And more sales-making features are even now on the boards of Norge engineers.

These *buyable differences* will save hours of time for Norge dealers, and increase their profits proportionately. Just another reason why Norge dealers are enthusiastic.

Only a little of this *built-in salesmanship* can be shown here. To see all the new Norge features, look at the product literature now being released.



NEW FREEZER for HOME and FARM • Outstanding engineering combined with new, efficient design adds extra space, enviable beauty and time-saving convenience. • Assures safe frozen storage for meats, vegetables, pastries and pre-prepared dishes; retains colors, vitamins and flavor for months.



SPEEDY NEW WASHER • Feather-weight Ro-ta-tor agitator is permanently as smooth as glass, and therefore eliminates any chance of "wash wear." • The sensational capacity is due to the modern tub design which holds over 20 gallons—without excess over-all size.

A BORG-WARNER INDUSTRY

Norge is the trade-mark of Norge Division, Borg-Warner Corporation, Detroit 26, Michigan. In Canada: Addison Industries, Ltd., Toronto, Ont.

SEE NORGE BEFORE YOU BUY

Meyers Appliance Buys New Store, Parking Lot

BUFFALO—Embarking on a broad expansion program, Frank J. Meyers, one of Buffalo's largest electrical appliance dealers, and owner of a store at 1401 Genesee St., announced the leasing of the store at 1350 Main St. and the purchase of the adjoining parking lot.

The store, containing about 10,000 sq. ft. of floor space, has been completely modernized in a substantial expenditure of funds. Mr. Meyers will move the store on Genesee St. to the Main St. location.

Included in plans for the new store is an outdoor cooking school with regular cooking classes open to the public.

Appliance Dept. Head Named

SPRINGFIELD, Mo. — Charles E. "Gene" Hunter has been named manager of the new Herr's Appliance and Service department at 1101 North Grant here.

Suburban Dealer Aims For 'Deluxe' Market

CLAYTON, Mo.—Among the most handsome new appliance dealerships in this western St. Louis suburb is Clayton Appliance & Service Co., opened by R. E. Campbell in January.

The store is constructed along Cape Cod cottage lines, with white woodwork over a buff brick facade, Venetian blinds, and panel windows. Mr. Campbell, who was for 25 years a Buick dealer, intends to operate with strictly "deluxe" appliances.

To "stop traffic" in this wealthy suburb, the store will use handwritten direct mail, painstakingly aimed at the owners of large homes in the area, which points out the community services and merchandise available "without making a long trip downtown."

Operating a large service department for appliances and radios, Mr. Campbell has been more than pleased with his results. From 124 mailings of penny postcards, he produced 72 actual customers.

"Chicagoland" Consumer Poll Shows:

Of 440,154 Potential Electric Refrigerator Owners, 60% Will Be Buying Their First

CHICAGO—Chicago residents are prepared to spend $33,748,987 for 207,049 electric refrigerators during 1946.

Residents of "Greater Chicagoland," a trade area which includes parts of Michigan, Indiana, Illinois, Iowa, and Wisconsin, as well as the Chicago sales area, are ready to spend $74,826,180 for 440,154 electric refrigerators.

The findings of a comprehensive survey of the postwar appliance market, sponsored by the *Chicago Tribune*, show that demand and where it exists within the Chicagoland territory. This market analysis was developed from the answers of 10,850 families, 3,075 of them living in the Chicago area and 7,775 in 20 other Chicagoland sales areas, to detailed questionnaires on home appliance ownership and postwar purchase plans. Projections of the answers to these 10,850 questionnaires give the *Tribune* a detailed picture of the potential home appliance demand among 2,257,202 urban families living in Greater Chicagoland.

Sales areas covered by the study, in addition to Chicago, are Escanaba, Kalamazoo, and Muskegon, Mich.; La Crosse, Oshkosh, Madison, Waukesha, and Racine, Wis.; Dubuque and Davenport, Iowa; Gary, Kokomo, Terre Haute, and South Bend, Ind.; and Rockford, Kankakee, Peoria, Quincy, Springfield, and Danville, Ill.

Definite figures on the immediate demand for electric refrigerators and other appliances were obtained from answers to the question: "If merchandise were available, what articles would you buy for your own household during the next year?" Nineteen and one-half per cent of the Greater Chicagoland replies indicate plans for the prompt purchase of an electric refrigerator. Only washing machines are in greater demand, and in dollar volume the demand for electric refrigerators ranks at the top of the list.

Sixty per cent of the Chicagoland residents who plan to buy electric refrigerators this year said that they will be buying that home appliance for the first time; 39.2% of them said that they plan to purchase on the instalment plan. Half of them disclosed that the manufacturer's reputation will be the most important single consideration in their purchase, but 35.4% of them confessed that they have no brand preference in mind yet.

The survey shows that 77.1% of the urban families in Greater Chicagoland now have electric refrigerators, 16.8% of which are more than 10 years old. Of the families now owning electric refrigerators but ready to buy new models, 73.5% expect to trade in their old refrigeration equipment.

A total of 115,117 Chicagoland families want to buy $27,743,197 worth of home food freezers this year.

More than half of these prospective buyers consider the manufacturer's reputation the most important factor in their choice of a freezer, but only 20% have any brand preference in mind now.

Along with its study of Chicagoland consumers, the *Tribune* completed a supplementary survey of dealers in the area to learn what appliance items they plan to handle, what installation and repair services they expect to maintain, what increases in floor space they will devote to appliances, what manufacturer policies they prefer, and details on several other aspects of dealer activities.

Of 432 department, hardware, furniture, radio, appliance, general, and jewelry stores contacted in the Chicago area, 83.6% plan to carry electric refrigerators and 25.9% will handle gas refrigerators. Of 1,619 dealers queried in 93 other Chicagoland cities, 75.8% expect to carry electric refrigerators, 14.2%, gas refrigerators.

Only 39.9% of the Chicago dealers interviewed plan to maintain a refrigerator repair service compared with 68% of the dealers in territorial cities. Among Chicago appliance dealers, 66.9% plan to increase floor space devoted to appliances; in other cities covered, 59.4% of the dealers have similar appliance expansion projects in mind.

THE SENSATIONAL NEW

PHILCO FREEZER

. . . a triumph of engineering and value!

The great new Philco Freezer is here . . . a marvel of engineering research and a triumph of value. At a sensationally low price, it brings you amazing and exclusive features for food freezing and sub-zero storage at temperatures of 15 to 25 degrees below zero. It's ready now to bring a new day of better meals, better living and greater leisure to your home.

Another dramatic Philco ad—"Prestige Selling Power" beyond anything ever developed—in this distinctive new Philco Campaign in all leading magazines!

THE PHILCO AH-25, a 2½ cubic foot freezer that fits easily into any kitchen. In features, service and value, it's the sensation of the industry at its amazing low price.

No scratches, no mars,
No chance to be sad;
We deliver your cabinet
In a Mastercraft Pad.

NATIONALLY ENDORSED

No scratches—no mars—no delivery woes, when that shiny new refrigerator is protected by a Mastercraft Adjustable Refrigerator Pad. Sturdily constructed, it provides ample protection. It's economical too, only $11.75 each, and it's adjustable to any size cabinet.

The Mastercraft Adjustable Carrying Harness at $8.50 each makes delivery of your refrigerator easy.

Attractive lettering of your name on pad at $2.00 each extra.

Write today for complete folder and prices on pads for refrigerators, home freezers, washers, ironers, ranges, radios; also furniture pads and protective slipcovers.

BEARSE MANUFACTURING CO.
Incorporated 1921
3815-8825 Cortland Street
Chicago 47, Ill.

SENSATIONAL! REVOLUTIONARY!

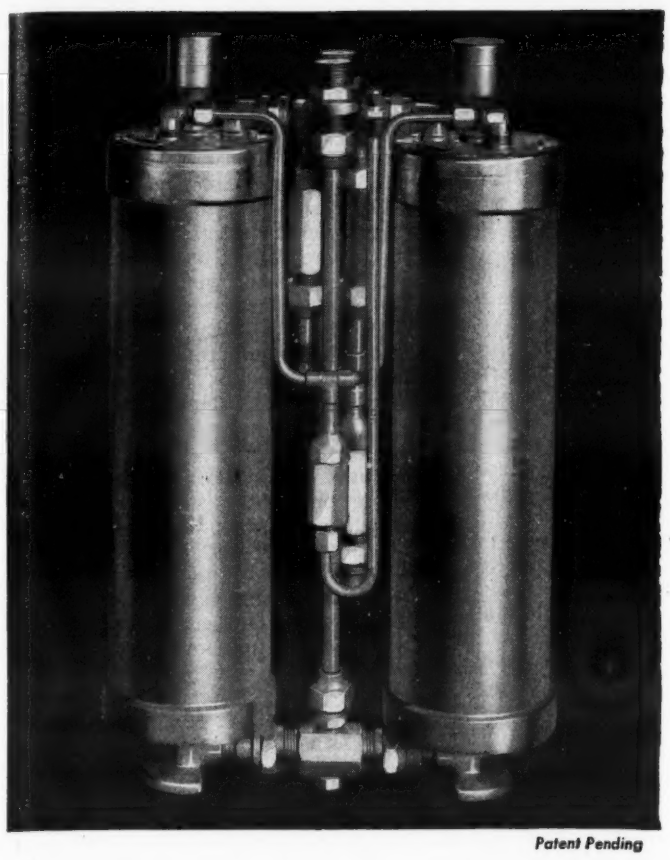
Excuse Our Superlatives But That's the Only Way We Know How to Describe the New

HUDSON

Constant Pressure

CARBONATOR!

A triumph of eight years engineering development and manufacturing experience! A complete, self-contained, motorless carbonator that delivers a steady flow of sparkling carbonated water—and at CONSTANT PRESSURE up to 125 pounds at the draft arm regardless of water pressure in the city water lines.



Patent Pending

The HUDSON CONSTANT-PRESSURE CARBONATOR may be installed in any sweet-water bath, bottle cooler, walk-in box, or in conjunction with any cooling system.

The Constant Pressure feature, an exclusive HUDSON development, permits even pressure at draft arm regardless of water pressure.

Here are Features that make the NEW HUDSON CARBONATOR a fast-moving sales leader for YOU:

- No motor.
- No pumps to pack.
- No damp basements.
- Constant even pressure.
- Entirely automatic.
- Requires no electricity.
- Compact — Requires little space.
- Automatic purging.
- Eliminates soda coils.
- Requires no oiling or greasing.
- Requires no floor space.
- Entire unit installed inside fountain or bar.
- Maximum capacity — 25 gallons per hour.
- Will operate root beer barrels or Coca Cola dispensers.

★ Overall Dimensions 16¾″ x 9¾″ x 3¾″. Shipping Wgt. 20 Lbs.

SODA FOUNTAIN MANUFACTURERS: Hudson Carbonators require no block-tin soda cooling coils—thus eliminating one bottle-neck in your production schedule!

★ Guarantee ★

ONE YEAR UNCONDITIONAL GUARANTEE

The Hudson Products Company unconditionally guarantees every unit against defective material and workmanship for a period of one year from date of purchase.

TEN YEAR FACTORY REBUILT AGREEMENT ON HUDSON CONSTANT PRESSURE CARBONATOR

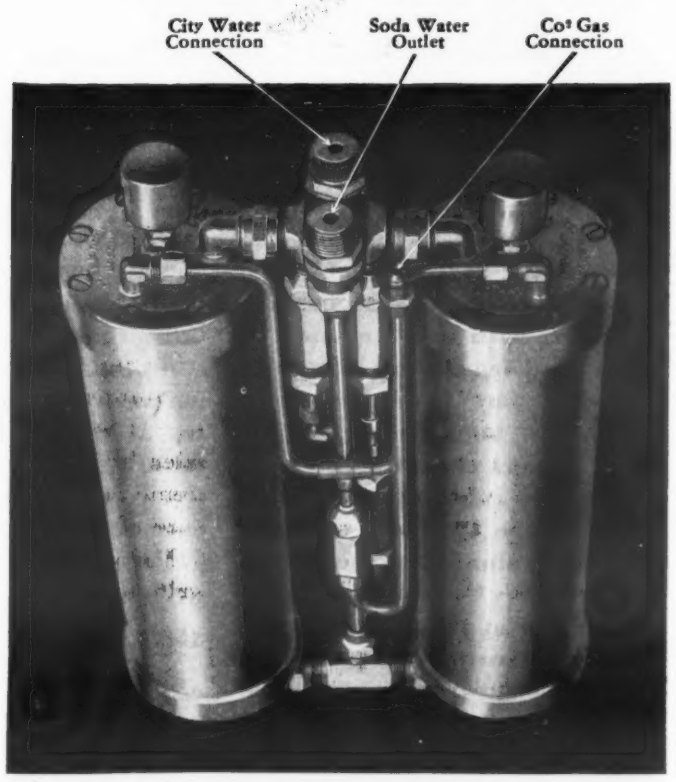
The Hudson Products Company hereby agrees to completely rebuild any Hudson Constant Pressure Carbonator at any time within a period of ten (10) years from date of purchase for a total charge of Thirty ($30.00) Dollars plus express to and from factory.

DEALERS: A few choice territories still open.

Call, wire or write us for our proposition.

WE CAN MAKE

IMMEDIATE DELIVERY!



Above Cut Shows Simplicity of Hook Up. Only Three Connections to make.

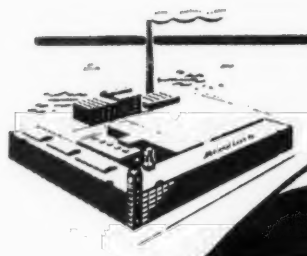
A Quality Product from the House of Hudson

HUDSON PRODUCTS COMPANY

4400 ST. AUBIN AVENUE TEmple 2-0690 DETROIT 7, MICHIGAN

Headquarters

REFRIGERATOR HARDWARE
for domestic, commercial and low temperature cabinets



SURFACE TYPE HARDWARE
"THRU THE DOOR" HARDWARE
EDGE MOUNTED HARDWARE
PLASTICS
DIE CASTING

NATIONAL LOCK COMPANY
Refrigerator Hardware Division
ROCKFORD, ILLINOIS

NEWA Airs Views on Hiring, Firing Salesmen Manufacturer's Direct Sales, and Warranties

By Ross Potter

CHICAGO—The first postwar conference of the National Electrical Wholesalers Association, held April 21-25 at Chicago's Stevens hotel, exceeded all previous annual conventions in size with an attendance of more than 1,000 members and guests.

It was also the first meeting of the association's appliance division since the formation of that division two years ago, in April, 1944. The membership within the division now stands at 222 exclusively appliance distributors, and between 500 and 600 members who are both appliance and supplies wholesalers, according to E. B. Ingraham, chairman of the division.

At the meeting members discussed such matters as the problem of firing salesmen, direct sales by manufacturers, and the attitude of wholesalers on the length of warranties.

This thirty-seventh annual meeting was not a sales conference, but the emphasis of interest, both in the talks given and the discussions that followed, were upon increased selling activity and sales efficiency.

John L. Busey, president of the association, sounded this keynote when, during the convention, he said: "Engineering, manufacturing, and production have enjoyed the top benefits of scientific research and the methods it produces. Selling never has. But if selling is going to be the 'Open Sesame' to production and prosperity, it's high time we gave it a priority."

Three of the major discussions at the conference followed the industry's concern with the problem of salesmanship: "NEWA's Scientific Personnel Selection Program," by Morris I. Pickus, president of The Personnel Institute; "A Preview of the EEI-NEWA Basic Sales Training Course," by Robert C. Hill, director of NEWA's appliance division; and "Four Points for the Future," by Arthur H. Motley, president of Parade Publication, Inc.

A feature of unusual interest, one seldom touched on and yet of direct importance to wholesaling, was presented in a talk by Walter P. Coppinger, chief of the electrical branch of the War Assets Administration. His talk covered the what, where, and how of obtaining government surplus property.

Reports on these talks will appear elsewhere in this issue or in subsequent issues of the NEWS.

Three special citations were made during the conference. Herbert Metz, chairman of NEWA's postwar planning committee, was awarded the James H. McGraw medal for 1945, conferred upon the wholesaler who has done most for his branch of the industry.

Mr. Metz headed the effort to bring into the industry more men equipped to handle the increasing volume of electronic and other electrical research not long out of the laboratory, and the conception of a program for swifter and more direct employment of technically trained service men.

Honorable mention was conferred posthumously upon the late Willard Hall, of New York Times Appliance Co., in recognition of his work in establishing a basis for considering potential appliance sales under the "PAM" system, designed to minimize conjecture and guesswork.

The reports of the committees working within the appliance division reflected the conference's major interest in selling. The most important of these, together with the questions and answers exchanged in the open forums that followed each one, are reproduced here:

SALES PROMOTION AND SALES HIRING AND FIRING

One of its first projects was to tone down the dream world trend in wartime advertisements of what to look for in postwar major appliances. This was accomplished with "a fair degree of satisfaction."

Projects since then have stressed the need for scientific hiring of men, and of adequate sales training and supervision programs. (The talks by M. I. Pickus and R. C. Hill cover these in detail.)

Question: If our firm hires 10 prospective salesmen, at the end of six months maybe two of them have turned out to be good material; three others show promise, but we'd like to work longer with them to be sure. But after six months the union enlists them, and then we can't fire them. Can the committee suggest anything we can do?

Answer: No. This problem has occurred before. The only thing you can do is decide yes or no when six months are up.

Question: Will the government's veterans program pay the difference between what we can pay a man starting in and the total figure allowed veterans?

Answer: Yes. Arrangements have to be made before he starts on the job, but the government will make up the difference, which varies according to whether he is married or single.

Question: Has the committee noticed any definite trend by manufacturers to sell direct to retailers on some items? I notice some roofing and insulating outlets selling refrigerators, and candy stores displaying small appliances, and as far as I can find out they aren't getting them through regular wholesale channels.

Answer: We haven't had any report on this, but we'll start checking. Submit actual names and places to us whenever you come across it. We can't of course do anything directly, but we can talk to the manufacturer of the products in question, and ask how come.

Question: Would the committee consider developing a program to guide distributors in areas where the league or the utility has taken no lead in promoting the market for such ideas as the electric kitchen?

Answer: Yes, certainly. We know the total market isn't being reached. Various national surveys, for instance, show people ready to buy 15-16 million refrigerators in the next few years, but the market potential, according to saturation figures, is 23 million. More sales promotion, and more help for wholesalers in those areas, certainly is needed.

Question: How about a course in general management for new firms in the wholesaling field? This is something that better salesman selection or supervision alone doesn't cover.

Answer: That goes on the agenda. In the meantime, put your name and address down, with your request, and we'll send for some literature that the U. S. Office of Education has issued along this line—the training of executives, how to supervise men in various departments, etc.

LEGISLATIVE COMMITTEE

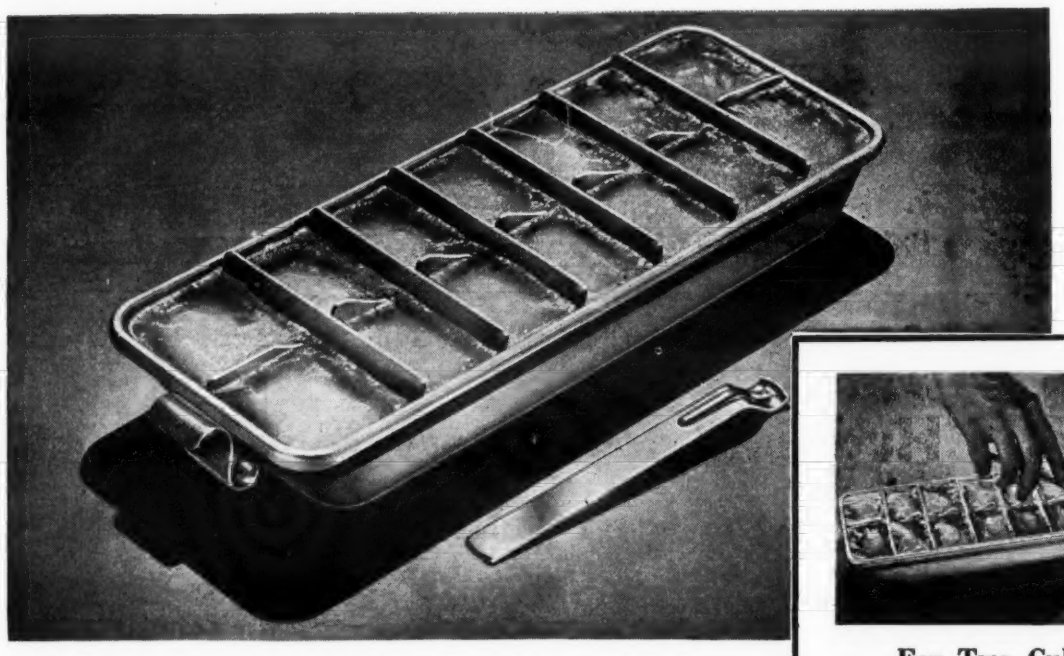
This committee follows what's going on in the state and national legislatures as to measures affecting, or promising to affect, wholesale activity.

Trade diversion bills, for instance (to control backdoor selling), have been passed in about six states, and are up for consideration in three others. As state bills, these are beyond our direct control, but we can send letters and telegrams, and keep you posted as to the most effective time to do the same thing, when that time comes.

Fair trade practice bills and amendments suggesting relaxing present government controls keep coming up. The recent Crawford

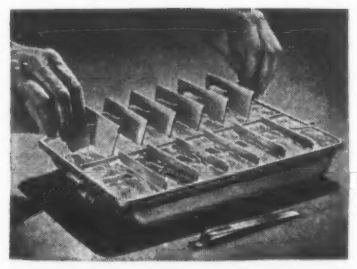
(Continued on next page)

HIGH CONVENIENCE – LOW COST



For Two Cubes

As shown in illustration above it is easy to use the Operating Lever and get two or more full-sized ice cubes from the Inland Tilt Out Ice Cube Tray.



For A Trayful

After cubes are loosened the grid is lifted vertically and cubes fall into the single tray pan—or Inland Dessert Ice Cube Tray pan, as shown above.

Inland TILT OUT Ice Cube Tray

Inland's moderately priced, efficient Magic Finish Tilt Out Ice Cube Tray, which combines fast freezing with quick release of full-sized ice cubes, is an outstanding "buy" for automatic refrigerator manufacturers, jobbers, dealers and users.

Two ice cubes at a time or a trayful are speedily released from this aluminum tray by use of the handy Operating Lever, as illustrated at right. Tray comes either with or without pan lifter. This, easy-to-operate, ice cube tray comes in single tray or double duty Dessert Tray sizes.

This Inland Magic Finish Ice Cube Tray is first choice as low cost original equipment by leading automatic refrigerator makers as well as for replacement sales by dealers. Users find extreme satisfaction in the convenience of its operation.

For prices and further details write to—

INLAND MANUFACTURING DIVISION
General Motors Corporation • Dayton, Ohio

FAST FREEZING
QUICK RELEASING
ICE TRAYS BY INLAND MANUFACTURING
INLAND

It's a REVELATION —that's all!

★ Exclusive Dealer Franchise
★ Now in quantity production
★ All sizes: Industrial and Commercial
★ The last word in...

ELECTRIC WATER COOLERS

Revelation Company
Division of
Interstate Engineering Corporation
2600 Imperial Highway
El Segundo, California

Regulation 'W', Warranty Reductions, Pricing Discussed by NEWA Groups

(Concluded from preceding page)

amendment to the price control act is an example.

For another thing, under present OPA ruling, no manufacturer can change his prewar discount without special permission of OPA; but when that does happen, and the burden is shifted to the wholesaler or retailer, NEWA can appeal too.

STORE MANAGEMENT AND DISPLAY COMMITTEE

A series of booklets is being prepared with suggestions for both wholesaling and retailing use. You will receive these automatically through the mail.

TIME FINANCING COMMITTEE

Consumer credit interest rates have settled down since the banks have come into the picture. Most immediate problem has been consideration of Regulation W.

On one hand, if merchandise is scarce, why raise a commotion to change the regulation when it isn't going to make any difference any way, for some time. On the other hand, people with small resources in many parts of the country, particularly strikebound areas, are going to find Regulation W a distinct obstacle to buying. How does the membership feel about it?

Speaker from the floor: Let it stay the way it is. Washington may change it before production gets under way again. If we raise the issue now, the banks are liable to pull back on their no-recourse terms. I say let Regulation W alone until we have a real case to plead.

WARRANTIES, SERVICE, AND REPAIR PARTS COMMITTEE

The warranty setup on major appliances, particularly refrigerators, has been off balance for a long time. Recently we sent questionnaires to 800 wholesalers in 44 states, asking what changes they'd like to see. Three hundred answered.

Their replies showed 60% want a reduction of the present five-year guarantee to one year or less.

As to the different major appliances, 50% of the wholesalers thought their customers understood their guaranteed protection on radios, 60% thought their customers understood it on traffic appliances they bought, and 66% understood it on their ranges; but only 34% on refrigerators.

The majority thought that, with hermetically sealed units, a five-year warranty is unnecessary. It's up to us to keep manufacturers informed on the results of such surveys, however, if we hope to see warranties reduced.

MAJOR APPLIANCES COMMITTEE

In addition to matters of OPA pricing, sales training, and other projects already discussed that we have worked on with the special committees handling them, this committee is trying to get a standard policy established under which manufacturers will include the pigtail price as part of the figure for electric ranges.

SMALL APPLIANCES COMMITTEE

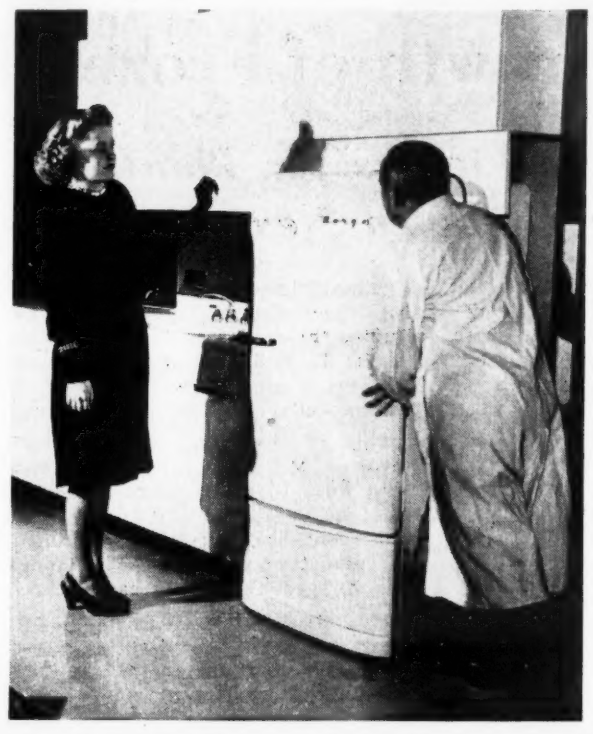
One thing considered has been the question of whether or not the price of the appliance plus its excise tax should be the figure upon which a discount is reckoned. The alternative is to discount first, then add the tax, which costs the wholesaler more money. Manufacturers vary on this point.

The committee finally got in touch with the federal agency handling this, and they said the cash discount can be exacted on the full total, on the initial price plus the excise tax.

4 New Appliance Retailers Licensed in Phoenix, Arizona

PHOENIX, Ariz. — Several new firms have been licensed to retail appliances here. They are Andrew Pridemore Co., Flagstaff; Leon S. Black and J. B. Ryan of Phoenix; J. C. Davis, of Wickenburg; and James R. Rardin of Phoenix.

Kitchen Part of Ingersoll Utility Unit



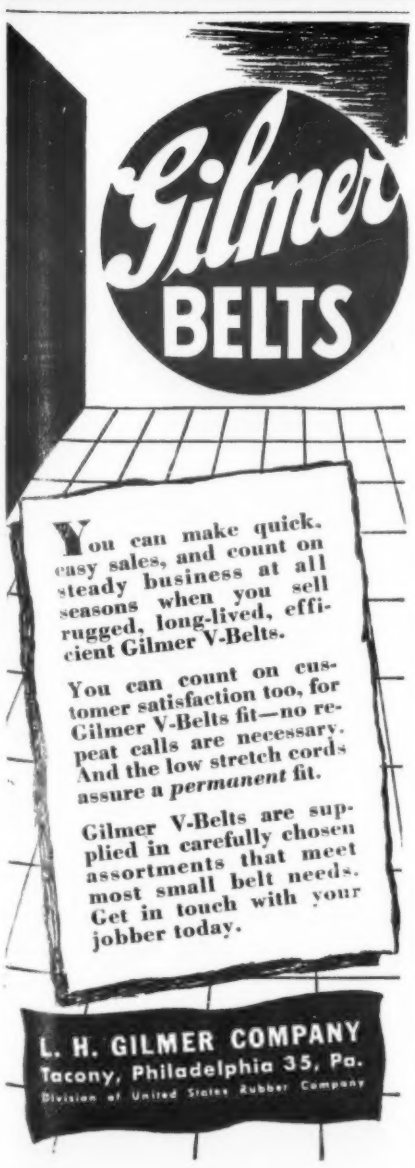
The ease with which a standard household appliance can be adapted to a prefabricated home utility unit is demonstrated at left as the workman eases a Norge refrigerator into a designated space in the kitchen section. The utility units, produced by the Ingersoll Steel Division of Borg-Warner Corp., are complete with all necessary components for kitchen, laundry, and bath.

FACTORY REBUILT UNITS

(All Models Except 'C') $39.95

- Guaranteed 6 months.
- One week service.
- Just unfasten bolts holding board and ship complete.

GRUNOW
AUTHORIZED SERVICE, INC.
4313 W. Fullerton Ave., Chicago 39, Ill.

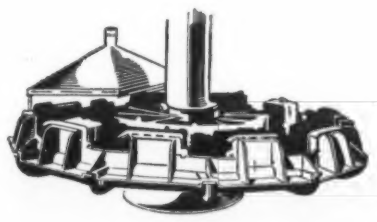

Gilmer
BELTS
You can make quick, easy sales, and count on steady business at all seasons when you sell rugged, long-lived, efficient Gilmer V-Belts.
You can count on customer satisfaction too, for Gilmer V-Belts fit—no repeat calls are necessary. And the low stretch cords assure a permanent fit.
Gilmer V-Belts are supplied in carefully chosen assortments that meet most small belt needs. Get in touch with your jobber today.
L. H. GILMER COMPANY
Tacony, Philadelphia 35, Pa.
Division of United States Rubber Company

EATON Permanent Mold Gray Iron Castings fulfill every desired specification for refrigeration cylinder blocks. The structure of the casting is dense and non-porous, capable of holding liquids and gases under high pressure. Permanent Mold Gray Iron takes a beautiful mirror finish, an ideal characteristic for cylinder walls. Proper annealing insures that the castings will hold size and not distort after machining. Free machinability is a desirable characteristic of all Eaton Permanent Mold Gray Iron Castings.

Millions of Permanent Mold Gray Iron Castings are used annually by the domestic appliance industries in literally hundreds of different applications: gears, valve bodies, pump bodies, cylinder heads, connecting rods, valve plugs, pistons, crankshafts, cylinder blocks, bearing retainers, pump heads, and many others.

Almost every product has one or more parts which could be made better from Permanent Mold Gray Iron. Eaton Foundry Division engineers will be glad to discuss the application of Permanent Mold Gray Iron Castings to your products.

The illustrated booklet, "The Eaton Permanent Mold Process," tells the complete story of Permanent Mold Gray Iron. Send for your copy.



THE EATON PERMANENT MOLD MACHINE IS A SYMBOL OF THE QUALITY OF GRAY IRON CASTINGS PRODUCED BY THE PERMANENT MOLD PROCESS

© 1946. EATON MFG. CO.

EATON
MANUFACTURING COMPANY
FOUNDRY DIVISION
9771 French Road Detroit 13, Michigan

Sales of Home, Farm Freezers Seen Pacing Growth of Frozen Food Industry

Meek Projects Figures for Plant, Store, Home Units In Next 10 Years

CHICAGO — "Average American families, when provided with proper low-temperature facilities and with a variety of frozen foods available, raised their annual purchases of frozen foods from less than $5 a family to more than $220," George W. Meek, president of Frozen Food Foundation, Inc., told members of the Edison Electric Institute at their twelfth annual sales conference here recently.

"This was not one isolated family, but hundreds of them, who had their grocery purchases checked for a year during one of the market research activities conducted in Syracuse, N. Y., by Frozen Food Products, Inc.

"But notice that both the frozen foods and the facilities to store them were present in each case," Mr. Meek pointed out. "The industry can grow no faster than the installation of such facilities in the home, and the availability of frozen foods to the shopper."

"Roughly speaking, a billion lbs. of frozen fruits and vegetables were packed in 1945," he revealed, "and some 7,000 locker plants froze approximately three fourths of a billion pounds of meat alone, in the same period.

"These figures are steadily growing," he said. "Those who have studied the market potential say that of our 18 billion dollar annual food bill, eventually between 9 and 11 million dollars will be frozen foods."

This is the long range picture, however, Mr. Meek stressed. It will take from 10 to 15 years to develop the food resources and to build the equipment and facilities to support an industry this size, he added. Yet its growth is a steady march.

Mr. Meek exhibited a map produced by the U. S. Department of Agriculture showing the geographical distribution of frozen food locker plants operating in January, 1944. (See Fig. 1.) He predicted that in the next five to ten years the eastern portion of the United States will see the greatest percentage increases in new plants.

During the past year, he illustrated, the three west coast states of California, Washington, and Oregon packed at least 50% of all the fruits and vegetables frozen in the U. S. But even with the expansion of growing and freezing facilities east of the Mississippi, he saw no reason why this proportion should change appreciably from its present level.

Mr. Meek called attention to the fact that with the big consuming areas in the northeastern quarter of the United States, and with the huge production areas along the West Coast, refrigerated transportation must play a key role.

FUTURE LOOKS BRIGHT

Offering no "rosy predictions" regarding early purchase of new mechanical refrigeration machinery for railway cars and long haul trucks, he considered the picture bright for production of large quantities of dry ice and water ice to be used in icing cross country refrigeration cars and long-haul trucks.

Mr. Meek declared that important quantities of electric power will be used in rural areas for:

(a) Locker Plants
(b) Food Freezing Plants
(c) Farm Freezers,

and in urban areas for:

(a) Dual-temperature Refrigerators
(b) Retail store frozen food equipment
(c) Home freezers and home storage cabinets
(d) Cooked-food freezing plants
(e) Frozen food warehouses.

The farm freezer market is potentially big, Mr. Meek believed. Even those areas with large numbers of locker plants are good prospects for farm freezers or frozen food holding cabinets, he reported. There are 2 million people today who rent space in rural locker plants, he pointed out—a market of at least 8 to 10 million people sold on the merits of frozen foods.

"The major appeal is convenience," he said. "By having their own food storage cabinets at home, the farmers can take less time out for trips to the locker plant.

MORE HOME CABINETS

"Some farm families will buy their own freezers, and do their own processing," he acknowledged. "But with the probable availability later this year of a 120 lb. home storage cabinet at a price as low as $127, including a five-year guarantee, it's my guess that thousands upon thousands of farm families will add this appliance to their homes."

Looking ahead, Mr. Meek plotted the following growth curves for the different types of refrigeration equipment used in the frozen foods industry:

1. Food freezing plants will take a definite upward curve in the early 1960's.

2. Locker plants and retail store cabinets will follow relatively normal growth curves.

DUAL-TEMP REFRIGERATORS

3. Home storage chests, with small production before 1946, by 1950 will fall off to very small figures because of the overwhelming preference, by then, for dual-temperature household refrigerators. The total load as transferred from one to the other, however, will remain about the same.

4. Dual-temperature refrigerators and farm freezers will follow typical life-cycle curves.

In the case of the home storage chest, Mr. Meek offered the alternative that its sales curve would more nearly resemble that of the dual temperature cabinet if engineering and production achievement could be combined with mass demand to produce a small low-cost low-temperature cabinet with a sizable cost-per-cubic-foot advantage over the dual-temperature box.

What electrically operated auxiliary equipment other than refrigerating machinery may be needed by the frozen foods industry? Mr. Meek illustrated by tracing 1 lb. of frozen food through its commercial distribution channels, and gave kwh figures for each process (see Table I).

Locker Plant Locations in U. S.

Table 1

Table I: Approximate kilowatt-hour consumption for 1 lb. of frozen food on a through trip.

Power Consuming Operation	Kwh.
Conveying, washing, sorting, peeling, blanching, etc.	.030
Pre-cooling (if it's cooked food)	.010
Freezing (aver.: 70° down to 0° F.)	.045
Storage warehousing (average: 5½ months)	.620
Transporting (mechanical or ice refrigeration)	.010
Displaying in retail store (average: 1 week)	.060
Storing in home before final use (average: 1 week)	.100
Total business	**.275**

Those who sell electric current are especially aware that frozen food must, at all times prior to final consumption, be kept under refrigeration, Mr. Meek reminded his audience. Power consumption, however, is not continuous. He produced a chart showing running time percentages for the different types of equipment used (see Table II).

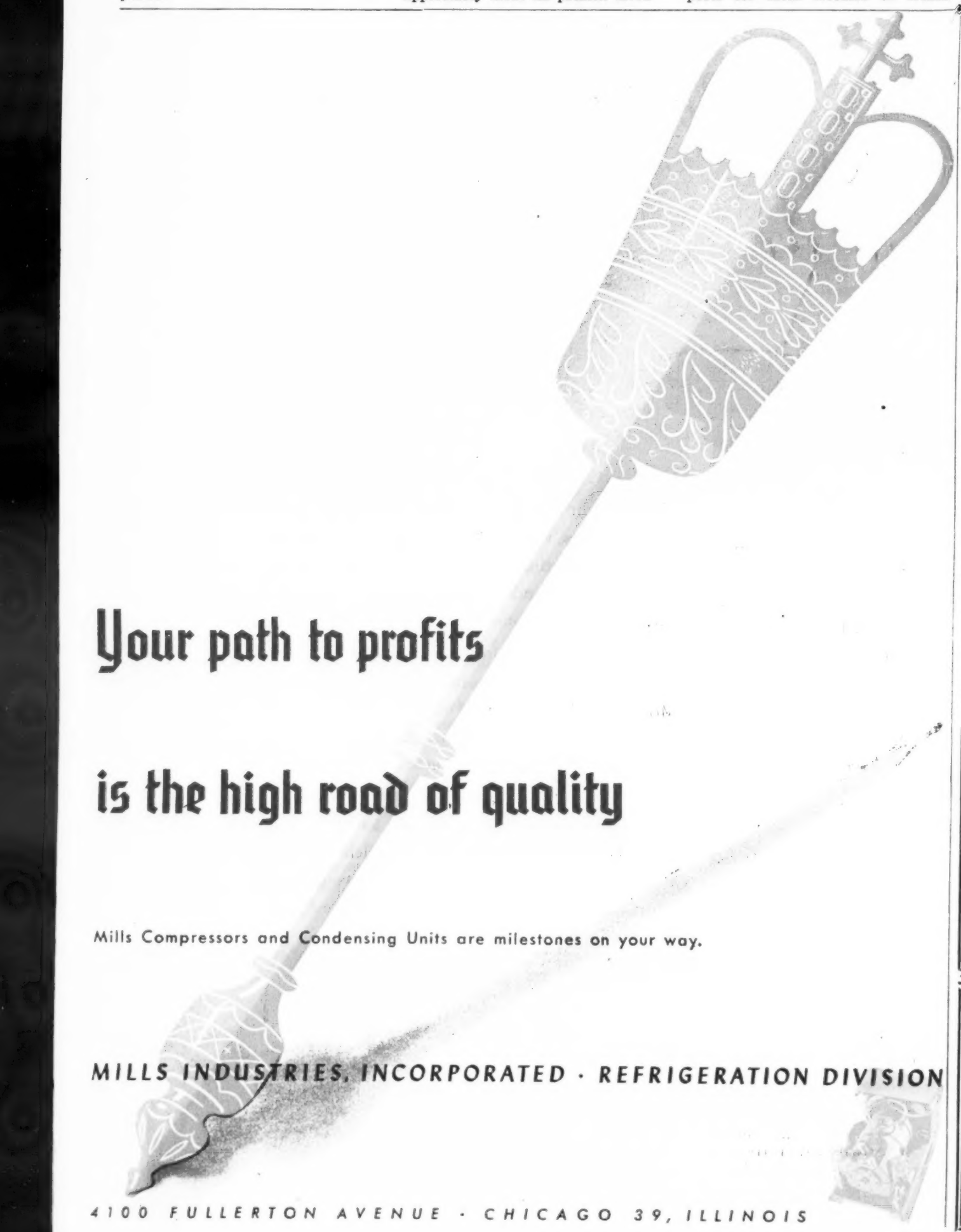
Table 2

Table II: Load consumption averages of different types of equipment.

Type of Equipment	Estimated Running Time
Frozen food locker plants	15 to 35%
Farm freezers	10 to 25%
Home freezers and storage cabinets	25 to 45%
Dual-temperature household refrigerators	30 to 60%
Commercial food freezing plants	10 to 25%
Cold storage warehouses	40 to 60%
Retail store display cabinets	30 to 55%

The overall average load figure points to a load, at the end of 1950,

(Concluded on next page)



Your path to profits

is the high road of quality

Mills Compressors and Condensing Units are milestones on your way.

MILLS INDUSTRIES, INCORPORATED · REFRIGERATION DIVISION

4100 FULLERTON AVENUE · CHICAGO 39, ILLINOIS

SUPERIOR VALVE & FITTINGS COMPANY
Pittsburgh 26, Pennsylvania

VALVES, FITTINGS & ACCESSORIES
For All
• Refrigeration and
• Air Conditioning Systems

LARKIN

MECHANICAL REFRIGERATION PRODUCTS

Humi-Temp Forced Convection Units—Patented CROSS-FIN-COILS—Bare Tube Coils—Zinc Fused Steel Plate Coils—Disseminator Pans—Heat Exchangers—Evaporative Condensers—Instantaneous Water Coolers—

LARKIN COILS, 519 Memorial Dr. S.E. Atlanta, Ga.

THE WATCHDOG OF THE NATION'S FOOD SUPPLY

Members of the Refrigeration Equipment Wholesalers Association

Your refrigeration parts and supply house in Central New York and Northern Pennsylvania

TED GLOU

CENTRAL SERVICE SUPPLY CO

516-18-20 E. Erie Blvd.., Syracuse, N. Y. Phone 5-4000
209-211 Jefferson Ave., Scranton, Pa. Phone 3-4000

Utilities Told of Stake In Frozen Food Future

(Concluded from preceding page)

of from 2½ to 4 million horsepower, he estimated.

Thus the frozen food industry, with its large potential demand, its widespread geographical projection, and its steadily increasing rate of growth, presents a major field for utility consideration. He suggested several possibilities for further utility activity:

1. Follow the development of frozen food production and consumption, and collaborate with research and market studies carried on by univerisities, private research organizations, and others.

2. Lay out educational programs to permit your home economists to publicize the benefits that your customers will derive from frozen foods.

3. Recognize that the frozen foods industry's growth depends very directly upon what you do in helping to increase the sale of low-temperature facilities to homemakers.

4. Consider seriously the load possibilities of the farm freezer and home locker when projecting plans for rural electrification.

TABLE 3: Estimated Insallations to 1950

Table III: Number of installations with rough projection as to possible size of connected loads

	Approx. H.P. Connected Load in Average Installations	Approx. No. in 1939	Approx. No. End of 1945	Educated Guess As to No. in Use End of 1950	Projection of Possible H.P. of Connected Load End of 1950
Retail stores	⅛ to ½	10,000	30,000	160,000	70,000
Food Freezing Plants	50 to 100*	150	450	3,500	175 to 350,000
Locker Plants	15†	1,400	6,500	20 to 25,000	300 to 425,000
Farm Freezers (16 to 35 cu. ft.)	⅓ to ½	1,000	10,000	200 to 500,000	100 to 250,000
Home Freezers (6 to 15 cu. ft.)	¼ to ⅓	10,000	60,000	½ to 2,000,000	180 to 600,000
Home Lockers (Rural & City) (2½ to 5 cu. ft.)	⅛ to ⅙	0	0	3 to 4,000,000§	400 to 650,000
Two-Temp. Refrigerators (At least 2 cu. ft. of space)	⅛ to ⅕	0	0	5 to 9,000,000	1,000,000 to 1,800,000‡

(Rough projection of total hp. in 1950 (but not including warehouses)

* Does not include load from auxiliaries such as would be used in a canning plant.

† Includes meat saws, sausage grinders, etc., as well as refrigeration equipment.

‡ Roughly ½ of this load would be occasioned by normal refrigeration requirements.

§ The peak sales year may be reached in 1948 or 1949 with decreasing annual sales rate beyond that point. (See text.)

3,000 Unit Monthly Peak Forecast As Carrier Corp.'s First 1946 Food Freezers Roll Off Line

SYRACUSE, N. Y.—The first of Carrier Corp.'s 1946 food freezers began rolling off the lines April 29 at a rate which will ultimately reach 3,000 per month. Start of production originally scheduled for late February had been delayed by strikes in the plants of certain suppliers and because of material shortages.

Designed in two sizes, 15 and 30 cu. ft. with capacities of 600 and 1,200 pounds of frozen foods, the new freezers are equipped with aluminum freezing plates which also serve as storage shelves. Other design features include one piece plastic inner door liners, gravity cooled condensers eliminating the need for auxiliary cooling fans, and front opening doors like a refrigerator.

Carrier officials report that a substantial part of the corporation's $27,000,000 backlog of orders is for the freezers.

Worthington Backlog Causes Named by Searle

WILMINGTON, Del.—Reporting a backlog of orders amounting to $50 million and "an excellent volume indicated for some time ahead," President Clarence Searle of the Worthington Pump & Machinery Corp. here warned stockholders, however, that operating results of the corporation are not likely to be satisfactory for some months to come, because of strikes, increased labor and material costs, and difficulty in procuring material and accessory equipment necessary for completion of orders.

Strike at the Harrison works has been settled and operations were resumed on April 15. As a result of these strikes at two of Worthington's larger plants, Mr. Searle predicted that the corporation will show a net loss for the first quarter of this year.

Reconversion Costs, War Work Drop Pare Philco Net Earnings for 1945

PHILADELPHIA — Refrigerators and air conditioning units accounted for 24% of Philco Corp.'s sales for 1941, the last peace time year of production, it is revealed in the fifty-fourth annual report of the corporation, just issued.

Radio receiving sets totaled 62% of sales and storage and dry batteries, parts, tubes, accessories, and miscellaneous products made up the remaining 14%, the report said.

Though Philco Corp. has manufactured radios since 1928, it has produced air conditioners only since 1938 and electric refrigerators since 1939.

Net income for the corporation in 1945, the year covered by the report, was $2,377,239 as against a revised net income of $3,913,494 in 1944. The reduced volume of war work in 1945 and the heavy costs of reconversion were the chief causes of the decline in earnings, the report said.

The Philco report also announced the entry of the firm into the frozen foods field with the development of four home freezers of "outstanding utility and efficiency."

To obtain added productive facilities for the Refrigerator Division, Philco has purchased a large modern plant located at Wissahickon Ave. and Abbottsford Rd., Philadelphia, from the Reconstruction Finance Corp. This plant contains approximately 650,000 sq. ft. of floor space. It is a one-story structure of steel, brick, and concrete construction, and is now being equipped with the most modern machinery, the report said.

Prohibited by the government from making any start on reconversion until after V-J Day, because of the essential nature of its' war work, Philco moved rapidly at the end of the war to resume civilian production, the report declared.

By November, 1945, the new post-war radio receivers, radio-phonographs, refrigerators, freezers, and air conditioners had been designed and enough hand made samples were available for a showing in 137 distributor cities.

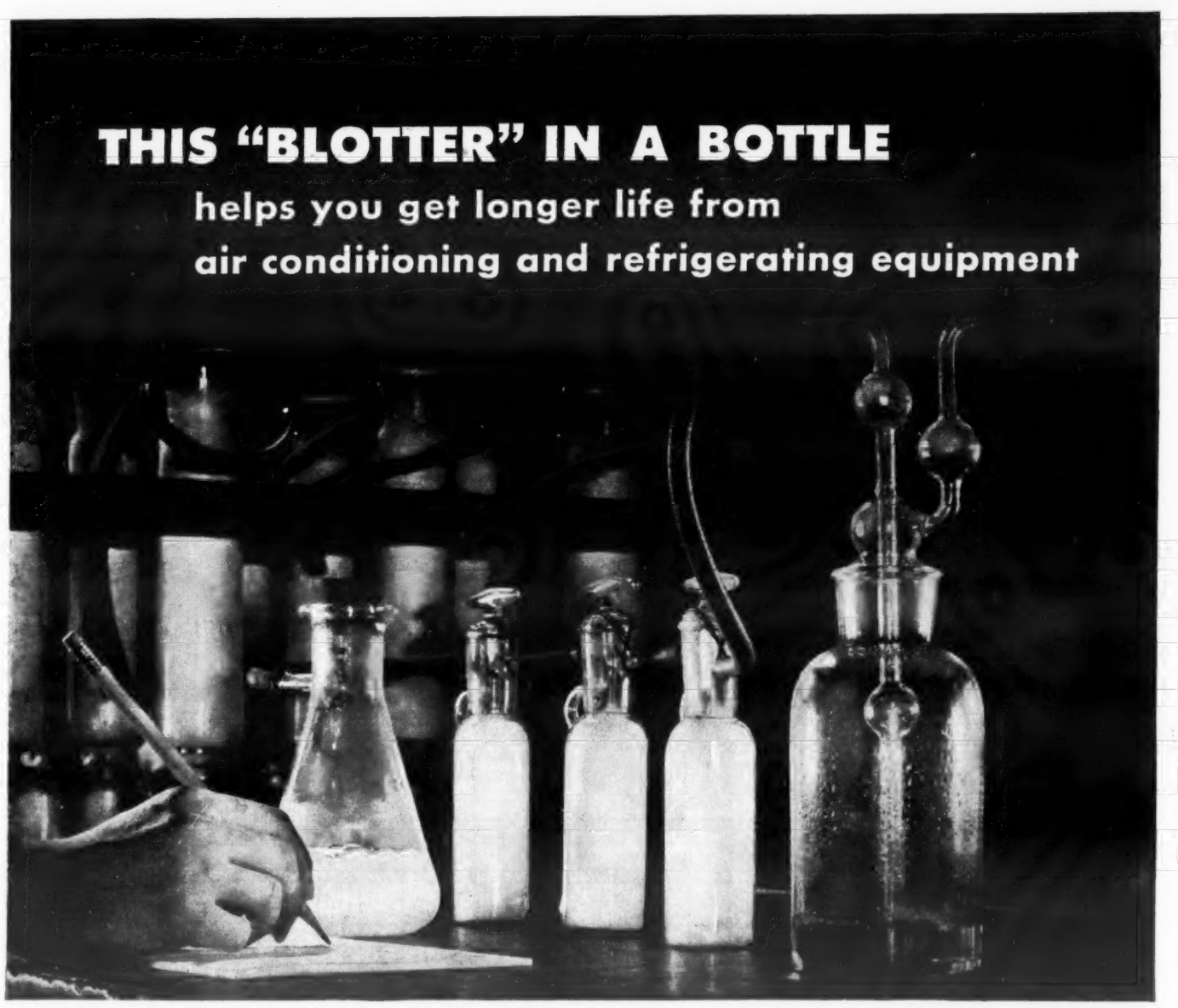
The report continued: "To date the output of new products has been far lower than anticipated, largely owing to factors beyond the control of the management. The employes in all Philco plants have cooperated fully to speed the reconversion program, but a series of strikes in raw material producing industries and elsewhere disrupted the flow of component parts and hampered Philco production. Price ceilings on many radio parts have been set at levels which offered no incentive to suppliers to meet our requirements."

Nebraska Firm Incorporated

LINCOLN, Neb. — Solid Freeze, Inc., Omaha, has filed articles of incorporation with the secretary of state, to manufacture and sell low temperature refrigerators and other equipment. Authorized capital stock is $50,000, and incorporators are Donald D. Brown, Leslie E. Wilkie, and Alvin A. Schepp, all of Omaha.

THIS "BLOTTER" IN A BOTTLE

helps you get longer life from air conditioning and refrigerating equipment



"Freon" safe refrigerants are almost totally moisture-free. Manufacturing specifications permit not more than 25 parts of moisture per *million* parts of "Freon"!

Because they are so free from moisture, "Freon" refrigerants reduce to a minimum the risk of corroding or freezing within capillary tubes and other parts of modern, compact equipment.

The "blotter" in a bottle—pictured above—constitutes a control test that insures the dryness of these refrigerants. The bottles contain a combination of highly absorbent ingredients through which samples of "Freon" are passed. The bottles are weighed before and after each test and from the difference in weight, analysts accurately determine the dryness of the product.

This is but one of scores of laboratory tests that are made throughout the intricate manufacture of "Freon" refrigerants to check and control the purity, dryness and other qualities of these superior refrigerants.

Today, prominent engineers in the air conditioning and refrigerating industry recognize these outstanding advantages of "Freon." That is one of the many reasons why they unhesitatingly recommend the use of equipment designed to utilize "Freon" safe refrigerants. Complete technical data on request. Kinetic Chemicals, Inc., Tenth and Market Sts., Wilmington 98, Delaware.

ADDITIONAL FEATURES OF "FREON" SAFE REFRIGERANTS

1. Narrow boiling point range—confined within limits of 1/2°C.
2. Low volume of insoluble gases—less than 2% in vapor phase.
3. Freedom from acids—thorough tests prove there are no acids in "Freon" refrigerants.
4. Freedom from impurities—high boiling impurities total less than 1/20 of 1%.

KINETIC

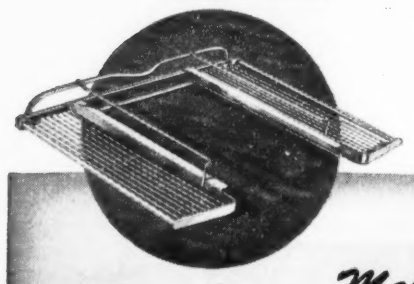
FREON

REG. U. S. PAT. OFF.

safe refrigerants

"FREON" IS KINETIC'S REGISTERED TRADE MARK FOR ITS FLUORINE REFRIGERANTS AND PROPELLENTS.

PERFECTION
DEMANDS THE BEST.
IN REFRIGERATORS
THAT MEANS
STAINLESS STEEL
SHELVES.



WALL WIRE
PRODUCTS
COMPANY

11333 GENERAL DRIVE
PLYMOUTH, MICHIGAN

Makers of STAINLESS STEEL AND
RETINNED REFRIGERATOR SHELVES AND WELDED WIRE PRODUCTS

2 Norge Electric Range Prices Revised by OPA

DETROIT—Maximum retail and wholesale prices for two models of electric ranges manufactured by Norge Division of Borg-Warner Corp. were recently announced by OPA in a directive revising and amending Order 187 issued last fall under MPR 64.

New retail prices for Model E-400 were fixed by the revised order but wholesale ceilings remain the same as originally announced. Maximum prices for Model E-450 were added.

Including the federal excise tax but no state or local taxes, the maximum retail prices are as follows:

Model	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
E-400	$186.50	$190.50	$192.50	$193.75	$195.50
E-450	211.25	215.50	217.50	218.75	220.50

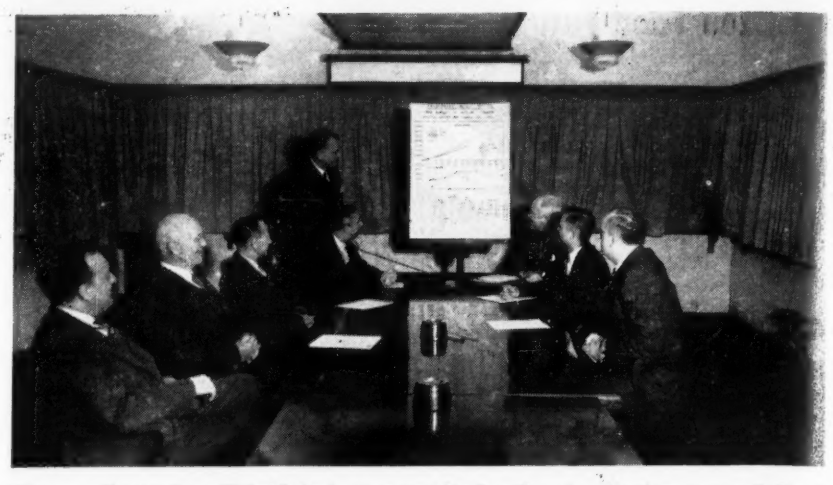
According to the order, these prices also include delivery, a one-year warranty, and installation. The ceilings may be increased by $3.50 if a range cord set is required and furnished by the dealer.

Ceilings for sales by wholesale distributors to retail dealers were set as follows:

Model	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
E-400:					
1 to 4 units	$119.79	$122.29	$123.54	$124.36	$125.42
5 or more units	115.35	117.75	118.95	119.73	120.75
E-450:					
1 to 4 units	135.76	138.40	139.68	140.41	141.53
5 or more units	130.72	133.25	134.19	135.19	136.27

The federal excise tax is included in these prices, which are f.o.b. the seller's city.

Talking Over Frigidaire Field Sales Setup



Shown discussing Frigidaire's reorganized sales territories are: (left to right) R. H. Huston, Eastern Regional Manager; R. G. Hutchison, Pacific Coast Regional Manager; H. T. Mattern, Central Regional Manager; L. A. Clark, Assistant General Sales Manager; P. M. Bratten, General Sales Manager (standing); F. M. Davison, Southeastern Regional Manager; W. G. Jennings, Southwestern Regional Manager; and H. F. Lehman, Assistant General Sales Manager.

* * *

Frigidaire Increases Regional Sales Territories To Streamline Distribution

DAYTON, Ohio — "In order to better serve the 44 Frigidaire distributing organizations throughout the country, the Frigidaire Division, General Motors Corp., has increased its regional sales territories from four to five, with regional headquarters located in the respective territories.

Formerly, headquarters for all except the Pacific Coast Region and the new Southwestern Region were located at the factory in Dayton.

The Southwestern Region, the new territory established under this reorganization, will be headed by W. G. Jennings who recently returned to Frigidaire after almost five years in the armed forces. Mr. Jennings joined the Fort Worth branch as assistant branch manager in 1933 and succeeded Mr. Bratten as Fort Worth branch manager in 1939.

The temporary headquarters for the Southwestern Region will be located at 1100 Cadiz St., Dallas.

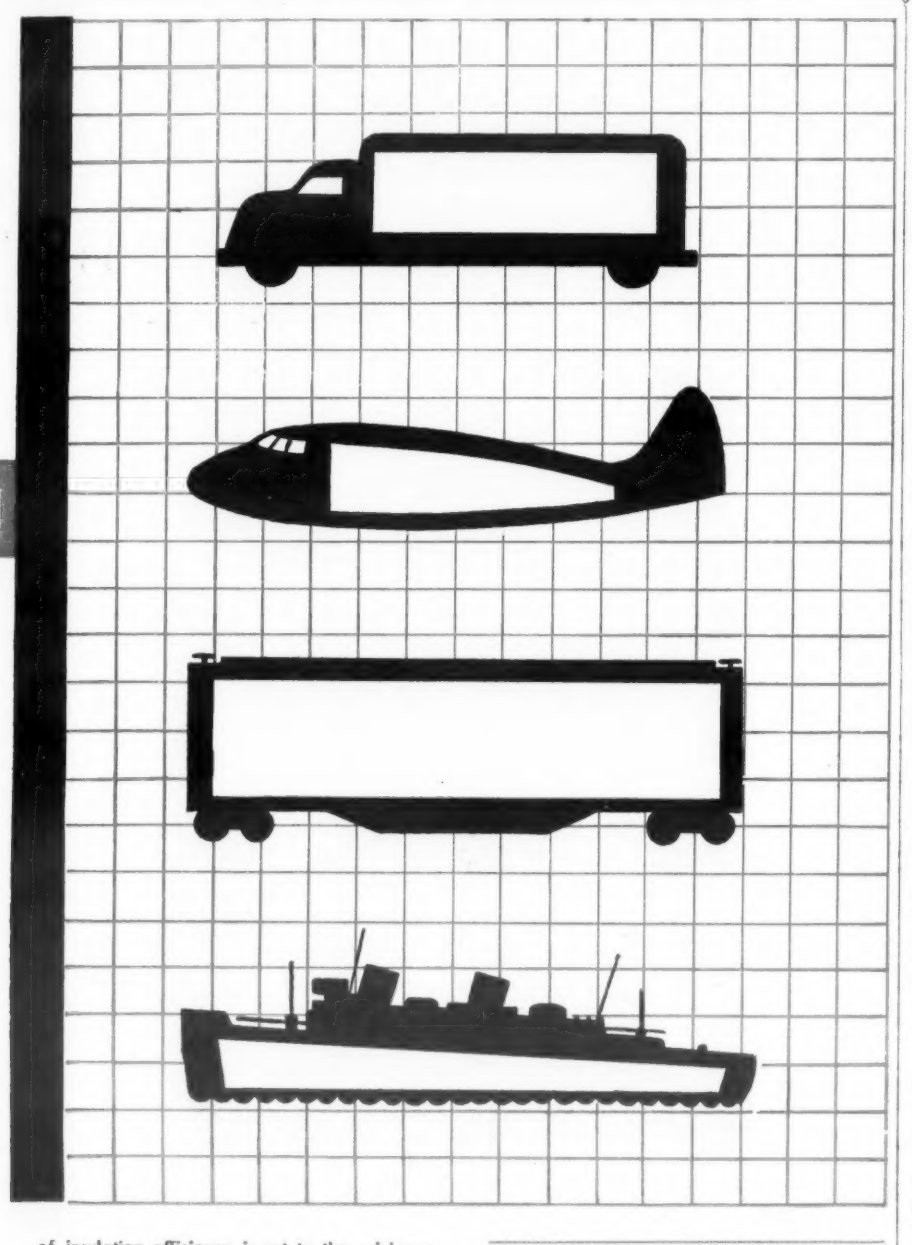
H. T. Mattern, who rounds out 16 years with Frigidaire, will continue as Central regional manager with headquarters at Dayton. Appliance and sales managers are S. H. Zoellner and M. C. Schenk, respectively.

Headquarters of the Eastern Region will be located in New York City as soon as suitable offices can be secured, with R. H. Huston as manager, H. M. Cline as appliance sales manager, and W. F. Layer as commercial sales manager. Mr. Huston, formerly western sales manager of the Appliance Division, has been a member of the Frigidaire organization for the past 22 years.

F. M. Davison, former western regional manager, will head the Southeastern Region with headquarters at 1175 Peach Tree, N. E., in Atlanta. Mr. Davison started with Frigidaire in 1923 and subsequently managed many Frigidaire branch offices, more recently Kansas City and New Orleans. R. L. Hatfield will head up appliance sales and A. C. Doak, commercial sales.

In the far west, R. G. Hutchison, who just celebrated 26 years with General Motors, will continue as Pacific Coast regional manager with new offices located in the Western Merchandise Mart, 1355 Market St., San Francisco. F. W. Beecher is manager of the appliance sales department and A. G. Foote will manage commercial sales.

MORE PAY LOAD
when Santocel
is your insulation



Because Santocel, Monsanto's unique research-developed silica aerogel, is the *world's most efficient insulating material*... thicknesses of insulating walls and doors can now be cut *in half*. The result is an important gain in storage capacity... in pay load on mobile refrigerated units... without loss of efficiency.

With this information it doesn't take a smart designer, manufacturer, or transport man long to figure out how often Santocel-insulated refrigerated units will pay for themselves!

How Does Santocel Do It?

This unprecedented efficiency is due to Santocel's unique cellular construction. It is approximately 90% air, trapped in sub-microscopic cells about one-millionth of an inch in diameter. The air may move in these tiny cells, but not far. Hence heat conductivity, the measure of insulation efficiency, is cut to the minimum.

If you design, make or use refrigerated transport... or domestic, commercial or industrial refrigeration... it's time you fully investigated Santocel, the modern insulating material. Complete data and technical counsel on adapting Santocel to your requirements may be had simply by addressing: MONSANTO CHEMICAL COMPANY, Merrimac Division, Everett Station, Boston 49, Mass.

SANTOCEL: Reg. U. S. Pat. Off.

MONSANTO
CHEMICALS
SERVING INDUSTRY...WHICH SERVES MANKIND

Quick Facts About Santocel:

1. INSULATING VALUE: Thermal conductivity of Santocel is lower than that of any other material or methods of insulation employed except a highly evacuated, silvered-surface space.

2. DENSITY: Although low for a free-flowing powder, Santocel's density is about equal to that of other loose fill insulators and is higher than some bat types and the foil types.

3. APPLICATION: Santocel can be applied by building a retaining jacket about the object to be insulated, usually of light weight sheet metal, and filling the intervening space. Being free flowing, it can be easily applied to such a construction.

4. SETTLING: Santocel settles to a stable density about as rapidly as other fill types.

5. MOISTURE SORPTION: Like all commonly used insulators, Santocel will not pick up significant quantities of water from the air.

Admiral Gets Prices On 2 Electric Ranges

CHICAGO — Maximum prices for two models of Admiral electric ranges have been approved by OPA.

According to Order 276, MPR 64, the ceilings for sales by retail dealers to ultimate consumers are as follows:

Article	Model	Zone 1	Zone 2	Zone 3
Electric range (without lamp and timer)	R-1	$174.95	$177.25	$181.95
Electric range (deluxe with lamp and timer)	R-2	249.95	252.50	257.50

These prices include a one-year warranty, delivery, and installation. OPA said that $3.50 must be deducted if the range is not installed by the dealer. The prices also include the federal excise tax but no state or local taxes imposed at the point of sale.

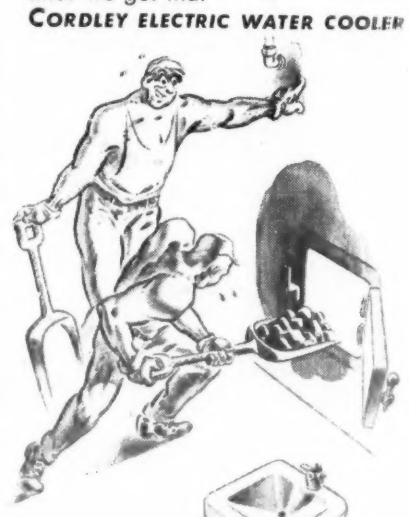
If Model R-1 is sold equipped with a lamp and timer, dealers are permitted to add $20.

For sales by wholesale distributors to retail dealers, the ceilings, including the federal excise tax, are as follows:

Article	Model	Zone 1	Zone 2	Zone 3
		5 units or more		
Electric range (without lamp and timer)	R-1	$105.56	$106.94	$109.76
Electric range (deluxe with lamp and timer)	R-2	151.41	152.94	155.94
		Less than 5 units		
Electric range (without lamp and timer)	R-1	109.68	111.11	114.05
Electric range (deluxe with lamp and timer)	R-2	157.35	158.95	162.07

Addition of $12.81 is authorized if Model R-1 is sold equipped with a lamp and timer. The prices are f.o.b. the seller's city.

Joe! you're better'n an automatic stoker since we got that
CORDLEY ELECTRIC WATER COOLER



CORDLEY
AND HAYES
452 4th AVENUE
NEW YORK 16

Specialists on Drinking Water Equipment for 57 years

MANHATTAN
WHIPCORD FHP V-BELTS

MORE POWER — Engineered to grip the grooves without slip; Flexible. Low tension "pull".
SILENT RUNNING — Uniform construction; Noiseless on high speed drives.
LONGER WEAR — Whipcord Endless Cord construction reduces internal heat, withstands side wear.

RAYBESTOS-MANHATTAN, INC.
MANHATTAN RUBBER DIVISION
EXECUTIVE OFFICES AND FACTORIES PASSAIC, NEW JERSEY

Montgomery Fair Store Plans 10 Outlets To Sell Appliances in Southern Alabama

Remote Areas are Target of New Expansion

MONTGOMERY, Ala.—The biggest appliance merchandising expansion promotion in store history is under way here, with the Montgomery Fair department store opening up 10 retail appliance stores in various Alabama cities.

"We intend to have retail stores throughout Alabama," said Merchandise Manager Paul Cosgrove of the store. "Bringing all of the advantages of modern home appliances into remote Alabama counties which heretofore show very slight penetration. Most of the areas are completely electrified at present, which means a worthwhile market now and in the future."

Five of the stores are already open and in full scale operation, with the remainder under construction but delayed by materials shortages. Towns involved include Greenville, Andalusia, Opelika, Tuskegee, Tallahassee, Florence, and smaller villages in southern Alabama.

Each store will handle nothing but appliances and appliance service. Parts and merchandise will be warehoused from the main store in Montgomery which is serving as distributor. Each is the best location obtainable in the town concerned, has a Pittsburgh Plate glass front, and modern interior. In getting underway, the Fair store supplied each unit with a panel truck for deliveries and service operations, with tools and parts furnished from the main warehouse.

In addition to four lines of each home appliance, each of the 10 stores will feature a complete model kitchen in actual operation, with "live display" guaranteed by gas and electrical connections. "We're going aggressively into the package job kitchen field," Mr. Cosgrove said, "with the emphasis on small, easily installed kitchens to fit into farmhouses and small homes."

Personnel in each store will be "local men" trained in the main store on selling, service, and business management. Most of them have been chosen from among ex-servicemen with some Army or Navy refrigeration experience. Surprisingly, the Montgomery Fair has been able to find at least one such valuable employe in all but two of the cities on the list. Local men will, of course, be able to ferret out prospects more easily, as well as simplifying operation in other ways.

"Each of the 10 stores will handle its own service throughout," Mr. Cosgrove added. "To make this possible, we've made up a shop kit on standard lines from our main appliance shop, which includes tools, a perpetual inventory of parts for all appliances to be handled, and equipment for refrigeration, washing machine, and radio repairs. Major overhauls, such as sealed units or work beyond local capacities, will be shipped into Montgomery for repairs."

Blanton Gets Appliance Post at Pressed Steel

CHICAGO—J. B. Blanton has been appointed assistant general sales manager for the domestic appliance division, Pressed Steel Car Co., Inc., announces A. Raysson, general sales manager.

He comes to Pressed Steel Car Co. from Management Engineering Co., of Chicago and Los Angeles, where he was head of sales, merchandising, and development engineering.

P. Best, T. J. Michel Named Production Executives at Crosley

CINCINNATI — Appointments to two production posts in the manufacturing division of The Crosley Corp. have just been announced by H. V. Deuker, Cincinnati works manager for Crosley.

Paul J. Best has been named quality manager of the Crosley Cincinnati plant after having served recently as assistant to the director of quality.

T. J. Michel, formerly engineer in charge of test equipment, has been appointed production superintendent for Crosley Cincinnati plants.

Burbank Appliance Firm Opens

BURBANK, Calif.—Burbank Household Appliance Co. is the firm name under which Ferris Large has published a certificate that he is conducting business at 4109 West Olive St., Burbank.

In the graceful, flowing lines of its gleaming stainless steel top . . . in the sleek beauty of its lustrous, walnut-bronze cabinet . . . and even more in the *dependable convenience* of its easy-to-drink-from performance, this new OASIS ELECTRIC WATER COOLER is a crowning achievement in EBCO's two decades of water-cooler leadership!

OASIS COOLER DIVISION
The EBCO Manufacturing Co. 401 W. Town Street Columbus 8, Ohio

Rochester Assn. Elects Whitford New President

ROCHESTER, N. Y.—Ralph A. Whitford, treasurer and sales manager of the ReQua Electric Supply Co., has been elected president of the Electrical Association of Rochester for the coming year. The association is in its third year.

Other officers elected are: E. J. Howe, first vice president; George Spillane, second vice president; E. J. Kramer, executive vice president; and H. C. Ward, treasurer.

The board of directors is composed of E. G. Alhart, Fred Anibal, Frank Beaucaire, Marion Figler, R. E. Ginna, C. F. Harris, F. M. Houston, N. A. Kreckman, Fred Laube, Harold Nichols, Frank Ockendon, Walter Parkes, and E. A. Roeser.

Navy Veteran Rejoins Cheyenne Appliance Store

CHEYENNE, Wyo.—L. E. Harnish, who recently received his honorable discharge from the Navy has rejoined the B. Davis Furniture Co. as manager of the appliance department.

The store is enlarging the department, according to Max Davis, president, and will have four mechanics in its service in addition to K. A. Peterson, who will be service manager.

Rosen Appoints Davis Kelvinator Sales Head

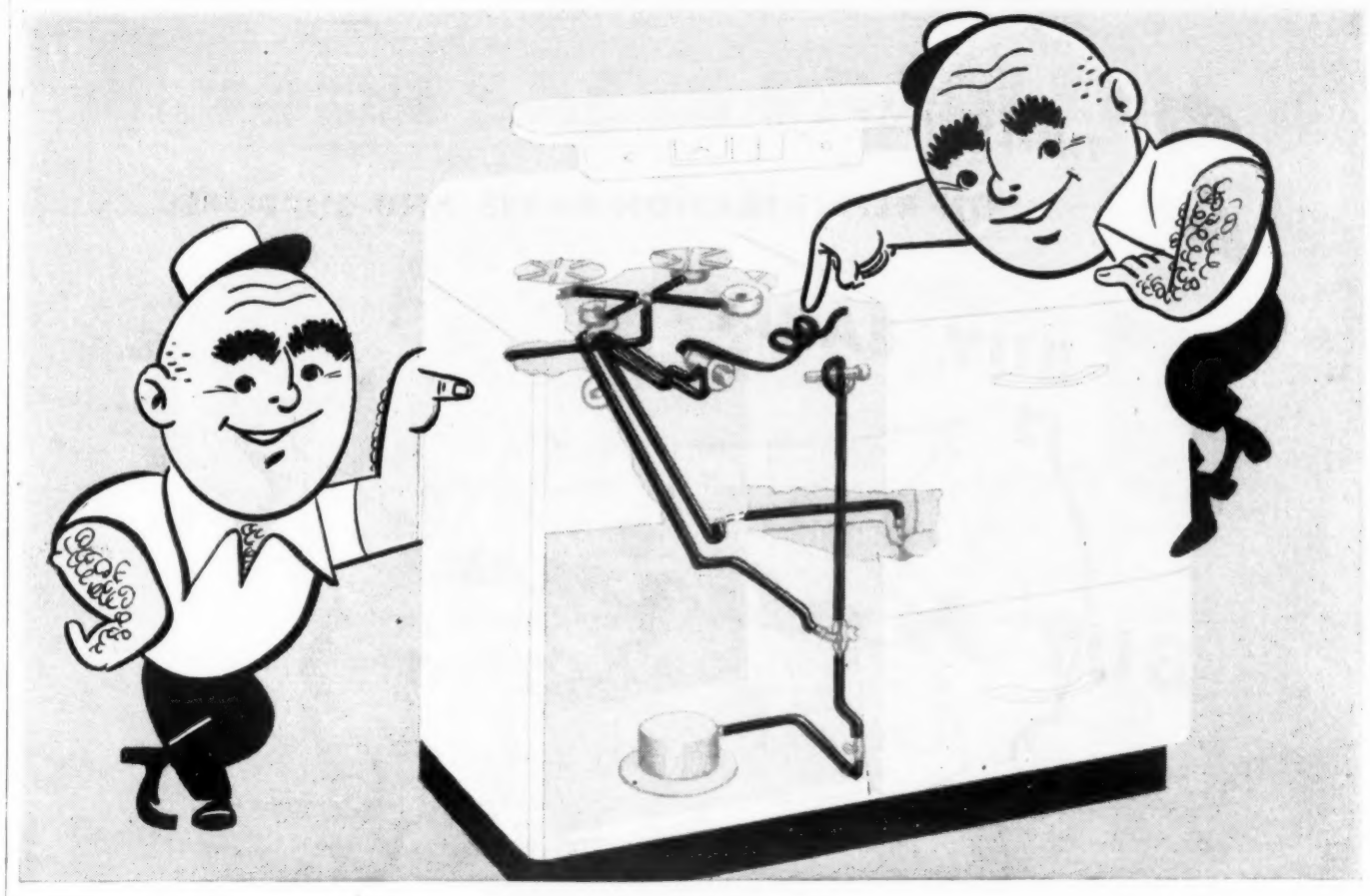
PHILADELPHIA—James T. Davis, Jr., has been appointed sales manager of the Kelvinator refrigerator and electric range department of Raymond Rosen & Co., electrical appliance distributor here, it was announced.

In his new capacity, Mr. Davis will supervise the wholesaler's salesmen in eastern Pennsylvania, southern New Jersey, and Delaware; he will coordinate sales activities of the Nash-Kelvinator Corp. with dealer sales efforts; and he will execute the sales program for Kelvinator products, arranged by Thomas F. Joyce, general sales manager for the distributor.

Prior to his affiliation with Raymond Rosen's sales staff, Mr. Davis was president of Jamison & Johnson, radio distributor in Allentown, Pa., and has been associated with the International Business Machines Co. for seven years.

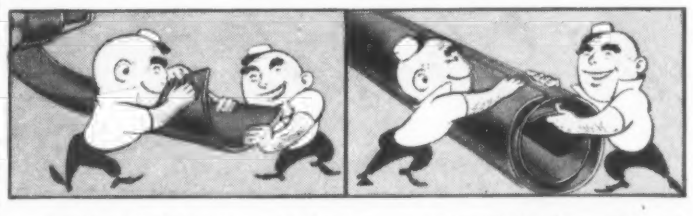
Furniture, Appliance Store To Open Soon in Fort Smith

FORT SMITH, Ark.—A new retail furniture and appliance store, to be known as the Rodgers-William Furniture Co. is to open here soon. The firm is a partnership of R. K. Rodgers and Woody William.



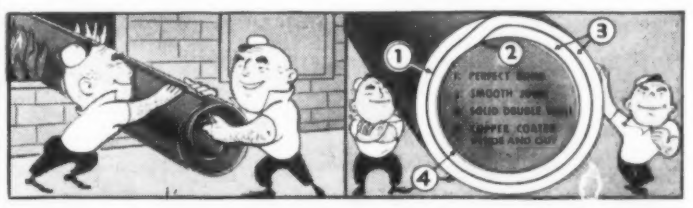
Show us the man "in the dark"

BUNDYWELD TUBING SUPERIORITY STEMS FROM AN EXCLUSIVE AND UNIQUE MANUFACTURING PROCESS



1 Bundyweld Tubing is made by a process entirely different from that used in making other tubing. A single strip of copper-coated S.A.E. 1010 steel is continuously rolled twice laterally . . .

2 . . . into tubular form. Walls of uniform thickness and concentricity are assured by the use of close tolerance cold rolled strip. This double rolled strip passes through a furnace where the . . .



3 . . . copper coating fuses and alloys with the double steel walls. After brazing and cooling, it becomes a solid double wall steel tube, copper brazed throughout 360° of wall contact . . .

4 . . . copper coated inside and out, free from scale, closely held to dimensions. Hard or annealed in standard sizes up to ⅝" O.D. Special sizes cold drawn. Also in Monel, nickel and nickel alloys.

THAT'S right.

We are seeking men who are "in the dark"—manufacturers who use tubing, yet may not know about the many advantages which Bundyweld Tubing offers.

Chances are excellent that such manufacturers can profit by having us demonstrate Bundyweld . . . by letting us show them how Bundyweld Tubing is *superior, different* . . . because it is produced by a unique and exclusive manufacturing process.

In the gas appliance industry, for example, Bundyweld has so well demonstrated its superiority that it is now used by a majority of makers. And wherever Bundyweld is used — for conveying gases, liquids, hydraulic pressures, or vacuums—it's preferred for:

- **strength, ductility, uniform tolerances.**
- **machinability and ease of fabrication.**
- **great resistance to vibration fatigue.**
- **high bursting point in pressure applications.**
- **low cost.**

May we work with you on your tubing problems? Prove that Bundyweld can, most likely, serve you better and cut costs? Write *Bundy Tubing Co., Detroit 13, Mich.*

BUNDY TUBING
ENGINEERED TO YOUR EXPECTATIONS

BUNDY TUBING DISTRIBUTORS AND REPRESENTATIVES:

Pacific Metals Co., Ltd. 3100 19th St. San Francisco 10, Calif.
Standard Tube Sales Corp. 1 Admiral Ave. Maspeth, N.Y.C., N.Y.
Lapham-Hickey Co. 3333 W. 47th Place Chicago 32, Illinois
Rutan & Co. 112 S. 16th St. Phila. 2, Pa.
Eagle Metals Co. 3628 E. Marginal Way Seattle 4, Wash.
Alloy Metal Sales Ltd. 861 Bay St. Toronto 5, Canada

WHERE EVERY SERVICE MAN LOOKS FIRST FOR
REFRIGERATION
PARTS & SUPPLIES
WRITE FOR CATALOG

THE HARRY ALTER CO.
1728 S. Michigan Ave. Chicago, 16, Ill.
Two Big Warehouses to Serve You
134 Lafayette St. New York, 13, N.Y.

INSIDE DOPE

by GEORGE F. TAUBENECK

(Concluded from Page 1, Column 1)

come and excess profits taxes would be reduced thereby $10,000,000. Shipments for the first quarter of 1946 were $60,426,744, against $309,766,472 in the same period of 1945."

The Bare Facts

In a message to G-E stockholders, Chairman Philip Reed and President Charles E. Wilson tell the story quite simply:

"During the war, unfortunately, the price line in general was not held, and in the civilian market—in which your company was temporarily not a participant—the cost of living rose 33%, according to government figures. But the prices of G-E peacetime products, at the close of 1945, were only an estimated 2 or 3%, on the average, above 1940.

"While still anxious to cooperate with the government's policy, we nevertheless found, on resuming manufacture of civilian goods, that the cost of materials and components going into our products had risen approximately 11%, and the straight-time average earnings of G-E employes had increased approximately 30% for men and 36% for women. Obviously such increased costs could not be absorbed by a price rise approximating only 3%.

"In the face of this problem, the government began encouraging a general pattern of wages at a much higher level, taking the position that such increases could be granted without yielding on the price line. It was at this point, when your company was re-entering the peacetime market with its product prices substantially at prewar levels, but with labor and material costs already sharply increased, that the union made its demand for an additional $2 per day, and called a strike which kept 120,000 G-E employes idle for nine weeks. It was a matter of simple arithmetic that your company, with its wages and prices so badly out of balance, could not grant large additional wage increases without adequate price increases. By encouraging the higher wage pattern, the government was plainly asking us to operate at a loss.

"This impasse was relieved to some extent by the announcement of the President's new wage-price policy, under which one-half of the government's policy became clearer—it would approve higher wages. As to prices, it was announced that application for review of 'hardship' cases could be made immediately, instead of waiting six months as was the previous practice. Government administrators expressed a hope of developing methods to expedite such a review. In General Electric's case, such a review would require analysis of costs and prices on more than 200,000 items. Meanwhile wages would go up immediately. Prices might be reviewed later. Substantially this meant that your company would have to resume operations at a loss while awaiting government action on prices, and hope that the eventual decision of the administrators would soon put an end to unprofitable operation."

Uncle John—
Left-Wing Version

In the April 8 issue, we ran a little piece which had been originated by somebody in the Republic Steel Corp. Maybe you remember it—how Uncle John, his hired hand, and the apple crop got all wound up with the OPA and the union.

In the mail the other day (the postmark was "Washington, D. C.") came a reply—and a new leftish twist to the story. Quote:

"Why all this slimy anti-labor, anti-union, anti-human propaganda belching forth from your column recently? You must realize, of course, that the majority of your subscribers are intelligent, laboring, mechanics, service men, machinists, shopmen, small business men, and in general the LITTLE PEOPLE who are, in the final analysis not only responsible for that hard to get butter on your bread, but the ACTUAL backbone to this giant industry that makes your paper possible!

"Instead of beating around the condensing units—*PRINT THIS IN REPLY* to that psycopathic effort as published in your Inside Dope column of April 8th.

"Blimy if Uncle John didn't live in a modest 18-room home on 73 acres of land right in the midst of town; accessed through the exploited labor of poor Pete who received not one dollar an hour in 1941 but nearer to 43 cents per, and lived in an old shack with his own wife and kids near the river.

"Of course Uncle John's profits per day was "somewhat" greater than $5. And also let us not belittle this poor soul. He too pitched right in and helped; by sitting on the porch on six pillows stuffing his mouth with juicy apples.

"In 1942 Poor Pete joined the Union so that there might be some way of eliminating the word 'poor' from Pete. The Union Agent (with the help of actual facts and figures) showed Uncle John that Pete was worth more than 43 cents per. After stalling for two and a half months (by that time the apple season was over) Uncle agreed to raise the salary from 43 per to 43½ per—Of course it was to start the following season, naturally. The following season 1943-44 the prices for apples and profits for Uncle John *jumped*, but he was an honest man—he would still give Pete that promised half-cent raise!

"In 1945, after V-J Day (the Union, on behalf of Pete asked Uncle John to increase his salary, as the sky-rocketing prices for apples and enormous profits for Uncle J. (derived solely through Pete's labor) was NOT being curbed by OPA. (According to your column, at this point Uncle John was beginning to take a loss.) Actually, at this point of the story Uncle John had amassed THREE TIMES his normal profits through these 'losses.' However, Uncle J. relented (and with tears of dollar signs streaking from his eyes) agreed to a colossal 10% raise!

"Now Poor Pete was getting the magnificient sum of 48 cents per—and, with overtime (which was soon added) Pete was rolling in money at about 59 cents an hour! ! Imagine ! ! ! !

"Here is the anti-payoff:—At this point in your column we have Heartbroken Uncle John losing $3.75 a day, every day. Can't we all just picture pitful Uncle John, sitting on his now Gold-plated porch, allowing that scoundrel Pocket Full Pete picking those milk-fed apples, while he, the coming of the Lord himself, allows $3.75 to slip through a hole in his pocketbook—everyday! Gad, if this were true, why didn't Uncle John simply retire? Who ever heard of a Business Genius like our good friend Uncle John take a beating like that and still stay in business? What'r'yu trying to pull, BuB?

"Of course it tain't necessarily-so. Cause . . . HERE IS THE PAY-OFF!

"According to your story Uncle John asked the OPA to raise (what again?) the price of the apples so that he wouldn't have to take this unscrupulous loss. Your story says the OPA investigated this carefully and agreed to another increase in price if John would add a few shekels to Poor Pete's income. (At this Uncle John probably tore at his golden locks and cried 'Preposterous!' 'Things shall remain as they are! I am content to make my profits on my daily losses as they are!')

"Pete went out on strike (whether strikes start at midnight or not, I don't know). It was possible in this case though. Y'see Uncle John had Pete well trained now. He had him working the graveyard shift too. Pete was allowed 15 minutes sleep during breakfast. John also threw in a Vitamin pill. (It wasn't the multiple kind either.) At this point there is some talk about Pete not picking as many bushels as before . . . Hmmmm n n . . .?

"The Government stepped in and 'forced' John to 'get it up.' Pretty soon John was making more because he was losing a little less. Did you read about that five cent argument? That's where Uncle John, the Gov't, Poor Pete, and the Union Agent couldn't get together. So strike it was. Near the end of that letter, you've got, Poor Pete and the Union Agent going down to Florida, but fact of the matter is they couldn't have. Who can afford a trip to Florida at 59 cents an hour? Besides the trains were already packed and the Florida hotels overcrowded with a lot of Uncle Johns. No, Pete went fishing in the river so that his family might have something to eat."

M. G. HORWITZ

Get on the Ball!

Let's study it.

Equal access to beckoning opportunities is a grand notion. And it's still a good one.

But that "equal access" is possible only when individual freedom isn't nullified and controlled by an All-Powerful State.

Let the beefers have their beefs. And the porkers their pork. Self-sacrifice of pleasures, and after-hours work should still pay off in the U. S.

True, the capitalistic system is subject to flagrant abuses. So are all other economic systems.

The trouble with capitalism is that it distributes its prosperity unequally. But the trouble with socialism-communism-fascism is that it distributes its poverty equally.

If you want success, power, and place, you can get it for yourself—if you try hard enough, and are brilliant enough—in America. (P.S.: You gotta be lucky, too! Being ready and willing to take a chance is part of the game).

One Amongst All

"You pays your money and you takes your choice."

If a tramp wants to go fishing, he can—in this country.

If a tycoon wants to knock himself out at the age of 45, so as to leave his wife the means to be a wealthy widow, he has that privilege.

And if a Common Man wants to be left alone—to read his papers, play checkers, drink beer, and argue in the corner drugstore without fear or interference—that he can do.

Under no other economic-and-political system are the members of the human race so self-sufficient, and so happy, as they are in this free-choice Free Enterprise system which is peculiar to the United States of America.

Hyman Appointed Davega Advertising Manager

NEW YORK CITY — Mortimer Hyman has been appointed manager of the advertising department of the Davega Stores Corp. here, announces A. Davega, vice president and advertising director.

Before serving with the armed forces in the Pacific theater of operations, Mr. Hyman had been associated for many years with the Davega organization.

An artist of considerable distinction, Mr. Hyman has designed covers for the *Saturday Evening Post*, *This Week*, and other publications.

2 TIMELY TIPS

ON REFRIGERATION PARTS AND SUPPLIES:

BUY EARLY . . .

BUY Kelvinator!

Conveniently Warehoused

Competitively Priced

Refrigeration service men who look ahead are stocking repair parts and supplies *now* . . . for they know that hot weather will bring a rush of service calls. In addition to buying early, forward-looking service men and organizations are buying *Kelvinator*... for they know from experience that *Kelvinator* parts and supplies are their key to building a reputation for fine service.

And they know that Kelvinator's warehousing system—working through 50 strategically located parts depots—makes competitively-priced *Kelvinator* parts, supplies and complete condensing units available for convenient delivery.

NASH-KELVINATOR CORPORATION, Detroit.

BUY KELVINATOR FOR ALL YOUR REFRIGERATION REQUIREMENTS

Kelvinator

CONDENSING UNITS

REFRIGERATION PARTS AND SUPPLIES

cool – cooler – coolstream

cool

cool—*adj.*—slightly or moderately cold; *v.t.* to make cool; *v.i.* to become cool

cool-er—*n.*—that which cools; a vessel for cooling liquids, etc.

cool-stream—*n.*—the superlative in electric water coolers. Skillfully defined in superior materials. Ably engineered for distinguished performance. Designed conveniently with a one-piece stainless steel cabinet—easily removable without tools and showing harmonious consideration for all interiors. Synonym: *satisfaction*

Send for catalog

THE COOLSTREAM CORPORATION
240 BUTLER STREET, BROOKLYN 17, N. Y.

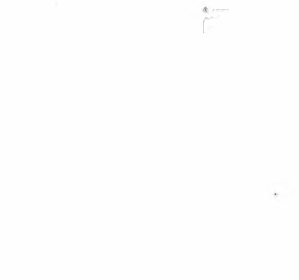
EVOLUTIONARY IN ENGINEERING • REVOLUTIONARY IN DESIGN

$4,496,734,000

ANSWER TO

YOUR SALES PROBLEM!

THE MARKET:



You can get double duty out of your first year's selling by concentrating on the rich, compact, $4,496,734,000 market that is located right at the heart of America—the great Chicago market. And you can get started fast—be set solidly for the days ahead when the first easy selling conditions pass and the competition becomes tough.

THE MEDIUM:

One single powerful medium reaches this easily accessible market—the Chicago Tribune. On weekdays, one out of every three families in the 756 cities and towns of 1,000 or more population in this strategic area reads the Tribune; on Sundays, it is practically every other family. In the important Chicago area the Tribune is bought, read and *bought from* as is no other single medium.

THE RESULTS:

Here is a market with a huge pent-up demand for automobiles, washing machines, refrigerators, radios and "big unit" products generally . . . famous for its volume purchases . . . one that has repeatedly broken factory and branch sales records. Here are the *immediate* volume and the consumer buying you want . . . because here you will find billions in savings and an area well fortified by diversified income.

Now is the time to get going. Available for your study and use is a specific Tribune sales program based on the findings of an auto and household appliance investigation among consumers and dealers. Moreover, only the Tribune gives you a choice of monoroto, coloroto, comicolor, newsprint color, or black and white printing at milline rates which are among the lowest in America.

CHICAGO TRIBUNE

The World's Greatest Newspaper

March average net paid total circulation:
Daily, over 1,040,000; Sunday, over 1,450,000.

To get the pertinent facts of the Tribune sales program, address: C. S. Benham, Manager, National Advertising, Chicago Tribune, Tribune Tower, Chicago 11, Illinois.

They'll Do It Every Time . . . . By Jimmy Hatlo

HEY, VERMIN- WILL YOU GIVE US A HAND TO GET THESE INTER-OFFICE REPORTS OUT--?
-IN A MINUTE, KIDDO-I GOT AN IMPORTANT CALL ON HERE...
"HELLO, LEFTY- WHAT WAS IT YOU WANTED, NOW? 4 POUNDS OF BUTTER, 6 PAIRS-NYLONS, 3 SCOTCH?-I'LL CALL YOU BACK...
DON'T ASK HIM TO DO ANY WORK--HE'S BUSY WITH HIS DARK MARKET DEALS
I THOUGHT THE END OF THE WAR WOULD STOP HIM, BUT HE'S AS BUSY AS EVER. HIS OFFICE OUGHT TO BE IN SOME NICE COOL CLINK
YOU CAN GET ANYTHING FROM HIM BUT A LITTLE HONEST EFFORT.
HE JUST USES THIS JOINT AS A BLIND. HE'S IN BUSINESS FOR HIMSELF
JIMMY HATLO
THERE'S ONE IN EVERY OFFICE THAT OUGHT TO CRAWL BACK IN WOODWORK...
Thanx To JOHN McGRORY, NEW YORK, N.Y.
COPR. 1946, KING FEATURES SYNDICATE, Inc., WORLD RIGHTS RESERVED.
3-6

☆ *Buy VICTORY Bonds* ☆

Easily demonstrated advantages

of FIBERGLAS insulation

Have no fears about the insulation when you offer your customers home appliances "insulated with FIBERGLAS". In fact, talk it up—make it a definite part of your selling story! Fiberglas can be an asset—both in closing sales now and in building customer good will for the future.

Remember! Millions know Fiberglas—know it through its outstanding performance in home appliances, in industry and in hundreds of extra-tough war jobs. Cash in on this acceptance. Let it help make sales and profits for you.

Owens-Corning Fiberglas Corporation, Dept. 848, Toledo 1, Ohio. Branch offices in principal cities.

In Canada, Fiberglas Canada Ltd., Oshawa, Ontario

DID YOU KNOW...

Fiberglas Thermal Insulation has long been used in commercial cooking equipment (such as this Blodgett Bake-Oven) and in rolling food-handling units for institutions and the Armed Forces. Fiberglas is specified for its efficiency, light weight and its ability to withstand shocks and vibration without settling.

OWENS-CORNING

FIBERGLAS

THERMAL INSULATION

AN INTERNATIONAL INSTITUTION • SUBSCRIBERS ALL OVER THE WORLD

Trade Mark registered U. S. Patent Office: Est. 1926

AIR CONDITIONING AND REFRIGERATION News

Copyright: 1946, Business News Publishing Co.

F. M. COCKRELL, *Founder*

Published Every Monday by BUSINESS NEWS PUBLISHING CO. 450 W. Fort St., Detroit 26, Mich. Telephone Randolph 0924.

Subscription Rates: U. S. and Possessions, Canada, and all countries in the Pan-American Postal Union: $4.00 per year; 2 years for $7.00. All other foreign countries: $6.00 per year. Single copy price, 20 cents. Ten or more copies, 15 cents each; 50 or more copies, 10 cents each. Send remittance with order.

GEORGE F. TAUBENECK
Editor and Publisher

PHIL B. REDEKER, *Editorial Director*

C. DALE MERICLE, *Associate Editor*
ROSS H. POTTER, *Associate Editor*
JOHN SWEET, *Assistant Editor*
ROY DENIAL, *Assistant Editor*
HUGH MAHAR, *Assistant Editor*
Editorial Assistants: BARBARA LEE, MARCELLA PRICE, FRANCES WEED, AND LORRAINE MCNINCH.

E. L. HENDERSON, *Business Manager*
ELIZABETH SMITH, *Assistant Bus. Mgr.*
MACIL STEPHENS, *Asst. Adv. Mgr.*
ROBERT M. PRICE, *Adv. Representative*
P. ALLEN SCHILDHAMMER, *Adv. Rep.*
WALTER J. SCHULER, *Production Mgr.*

Member, Audit Bureau of Circulations. Member, Associated Business Papers.

VOLUME 48, NO. 1, SERIAL NO. 894, MAY 6, 1946

Two Plus Two Doesn't Equal Four Any More

NOW we've heard everything.

They've finally hit us with the kitchen sink.

For many lonely weeks and months this department, together with its neighboring voice in AIR CONDITIONING & REFRIGERATION NEWS, "Inside Dope," has been raising hell with the politically-minded government statisticians.

They're a bunch of phonies—or worse!

Frequently it has been suggested that politicians in this country are all too ready to ignore the laws of mathematics. As a matter of fact, we have accused Washington appointees in the OPA of being unwilling to agree that two plus two equals four.

Well, it has happened at last. They're trying to *pass a law* that two plus two doesn't equal four any more. At least one Democratic electee is trying to legislate a mathematical inarguable out of existence. Read on:

"Pi" is a mathematical symbol of 3.1416—the circumference of any circle is "pi" times its diameter.

Believe it or not, newspapers report that a Democratic legislator in Kansas has introduced a bill to make "pi" a simple figure of three—devoid of its necessary .1416.

Yes—it *has* happened here.

The 3.1416 "pi" is too difficult for some Kansas schoolchildren to equate, it seems. Ergo, let's change its value—make it simpler!

Why should any Kansas schoolchild have to work hard over his lessons? Won't a benign, protective, *dominating* government feed him from cradle-to-grave?

To tell the truth about it, this protected-from-facts Kansas schoolchild oughtn't to learn how to spell, or to read. Just a waste of time. "Der Fuehrer" will think everything out for him, and answer all his problems. All he has to do is *obey*.

It's remarkable how the peoples of the entire world have fallen prey to the transparencies of demagogues during the last two decades.

Two plus two equals eleven. "Pi" isn't 3.1416—it's only an easy 3. America's national debt of three hundred billion dollars? Poof! We owe it to ourselves, don't we?

Should we work for a living? Of course not. By producing, we'll only make the bloody-rich more wealthy.

Let's all sit down underneath the spreading chestnut tree, and take it easy for the rest of our lives.

"The government" will take care of us, all right, all right. Why work—or worry?

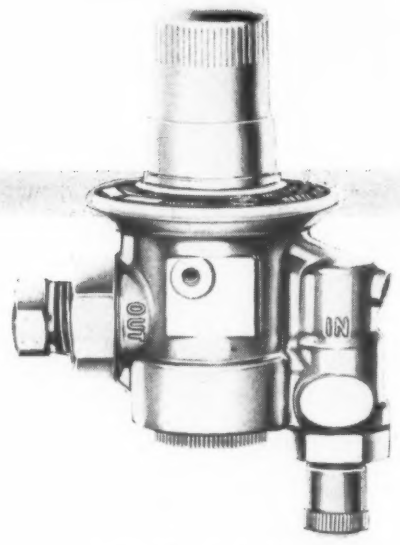
P. S.:

NEWS ITEM: "The Imperial Soviet Dictatorship of the World, having proved that all Democracies are decadent by its masterly direction of atomic destruction during World War III, now orders all remaining American citizens to register at the nearest Soviet Bureau for their assigned labor. It further admonishes them never again to speak without permission, think about anything, procreate without approval, or move one kilometer without permission."

Metal Cap ON AP MODEL 204 AUTOMATIC

EXPANSION VALVE PREVENTS VALVE HEAD FREEZE-UPS

WHEREVER AN AUTOMATIC VALVE IS USED....



A-P Model 204
Automatic Expansion Valve.
Capacity, ¼ ton Freon

THE METAL cap over the adjusting stem on the new A-P Model 204 Automatic Expansion Valve is important in simplifying your service and improving refrigeration efficiency. It forms a tight seal against air or moisture, preventing freeze-ups in the valve head — while at the same time providing quick and easy accessibility to the adjusting stem where simple adjustment to the system can be made without the need for tools.

With a capacity of ¼ ton Freon, the A-P Model 204 is already lending longer life and improved operating efficiency to thousands of small refrigeration units. You'll want to know more about it, as you are called in to check today's and tomorrow's refrigerating units. Many will have the Model 204 as original equipment. Its proven DEPENDABILITY will minimize service call backs on these units through many years of satisfaction.

AUTOMATIC PRODUCTS COMPANY
2450 NORTH THIRTY-SECOND STREET • MILWAUKEE 10, WISCONSIN
EXPORT DEPT., 13 East 40th St., New York 16, N. Y.

DEPENDABLE *Refrigerant Valves*

Stocked and Sold by Good Refrigeration Jobbers Everywhere • Recommended and Installed by Leading Refrigeration Service Engineers

It's ready!

Our 1946

CATALOG

Request on your Letterhead

AIRO SUPPLY CO.

—WHOLESALE ONLY—

2732 N. Ashland Ave., Dept. B
Chicago 14, Illinois

HEAT TRANSFER EQUIPMENT

MARLO COIL COMPANY

SAINT LOUIS, MISSOURI

Special Air-Conditioned Display Windows Eliminate "Fogging" In St. Louis Store

ST. LOUIS—Because uninterrupted display visibility through the front of the store is an absolute "must" in sporting goods merchandising, President Harold Siebens of the American Sporting Goods Co. here, has "built an air conditioning system around it."

The store recently put finishing touches on a 40-ton Westinghouse air conditioning system which involves among other things a "Preciptron" unit in the mixing chamber which removes all dust and dirt from the air passing through. This is expected to save upwards of $5,000 per year in markdowns on soiled merchandise alone.

One of the most unusual features, however, is use of the air conditioning system in winter and summer to keep the huge plate glass front of the store absolutely free from moisture or dust concentration. Built entirely without posts or frames, and including a clear-plate door minus hardware, the entire front is one huge display window, through which merchandise appears on its standard display fixture. Thus, maintaining its clarity was of vital importance.

Natkin & Co., St. Louis air conditioning dealer who made the installation, have solved the problem with a 1-by-10 in. duct hidden in the plasterwork over the window interior entirely across the store front.

In winter, this duct is fed exclusively warm, recirculated air, which is first passed through a "booster fan" which raises the atmospheric pressure by 40%. This is concealed likewise behind the facing of the wall.

The 1-in. slit opening along the entire length of the duct thus forces a stream of warmed air down the window to the floor, removing all condensation in winter at any temperature, and in summer, forceful enough to blow away dust settling on the glass.

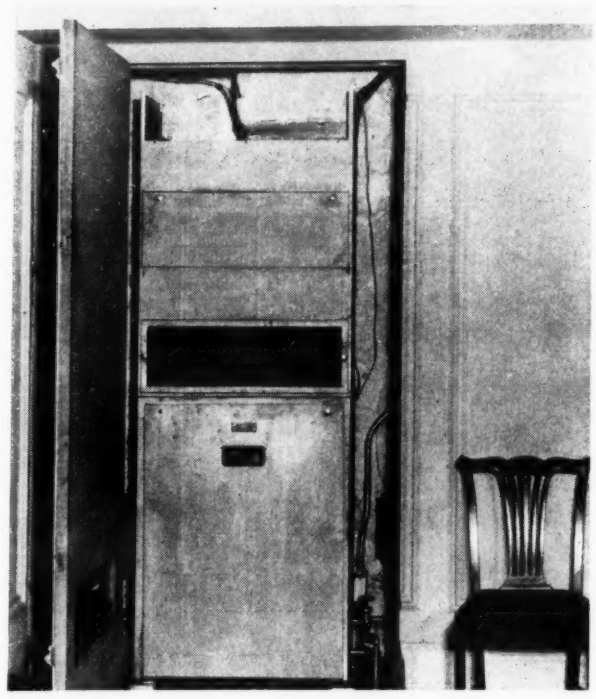
The same air when cooled in summer, also helps to alleviate the heat load caused by a row of direct incandescent spotlights which provide a powerful concentration of light immediately behind the glass.

The same air is also blown down over the window exterior by a duct outlet immediately over the door. Entering customers are greeted by a stream of warmth in winter, and by cool currents in the summer. Both have extra practical value in that they blow back flies and other insects attempting to enter the store, and prevent any dust from getting into the otherwise dustless atmosphere.

Heat Equipment Co. Started

OMAHA, Neb.—Phil F. Brick, formerly vice president of Air Conditioning Utilities of Omaha, has formed the Allied Heat Equipment Co. with headquarters at 1812 Harney St. Mr. Brick is owner and general manager of the new firm which has secured exclusive distribution rights for the Iron Fireman Mfg. Co., and will serve western Iowa and eastern Nebraska.

"Packaged" Air Conditioner for Hotel



The packaged air conditioner at left is one of eight similar 3-hp. units and a 5-hp. unit used by the Penn Harris Hotel in Harrisburg, Pa., to air condition meeting rooms and main corridors on the Parlor Floor. Recessed in unused spaces between rooms, the Airtemp units can be regulated independently.

* * *

Variable Heat Loads In Hotel's Assembly Rooms Controlled by 9 Airtemp Units

HARRISBURG, Pa.—Highly successful results from the use of nine Chrysler Airtemp "packaged" air conditioners to provide flexible control of the widely varying heat loads on the parlor floor of the Hotel Penn Harris are reported by Franklin Moore, president and managing director of the hotel.

The parlor floor, containing meeting and assembly rooms for conventions, may be empty one day and packed to capacity the next. At other times only part of the meeting rooms may be crowded while the rest of the floor lies idle.

For air conditioning meeting rooms and main corridors of this floor, one 5-hp. and eight 3-hp. Chrysler Airtemp "packaged" air conditioners—each an individual system—were installed in 1940.

The 3-hp. units are recessed in unused spaces between the rooms. Access is provided through special doors opening from the meeting rooms. Special thermostats are mounted on panels outside the meeting rooms so that the resident engineer can make necessary adjustments in the setting of the thermostats without disturbing the occupants of the rooms.

Outside air for the main corridors and the meeting rooms is supplied by a 5-hp. air conditioner which operates with all outside air—taken from an adjacent point on the outside wall of the building and fed into the halls.

Outside air supplied to the halls enters the intakes of the recessed conditioners through special grilles built in the walls between the hall and the recessed spaces. This arrangement keeps the air both in the corridors and meeting rooms fresh and clean at all times, no matter how much smoking is done when a large convention is in progress.

A ballroom and a large assembly room on the same floor are air conditioned by central station systems having 40-hp. and 25-hp. Chrysler Airtemp radial compressors, respectively. Each of these systems is completely independent in operation and control.

Central New York ASHVE Group Names Woese

SYRACUSE, N. Y. — Carl F. Woese, president of the Central City Cold Storage Co., was elected president of the Central New York Chapter, American Society of Heating & Ventilating Engineers, at the annual meeting in the Onondaga hotel. He succeeds Carl M. Ashley.

H. G. Strong was elected vice president, Miss Margaret Ingels, secretary, and C. H. Chur, Jr., treasurer. The officers and Frank E. Hockensmith are new members of the board of governors.

Brilliant new member of the Green Dragon family of products. It completes the famous Elpeco 3-unit line, produced at one source under one responsibility. It's the

THERMOTRON

AN INSTRUMENT OF EXACTNESS FOR FLOW CONTROL

STAR BILLING has been given Thermotrons by Wholesalers everywhere! Ask for them by name. Look for the modern package of gleaming, crystal-clear plastic, with the Thermotron always in full view for inspection.

Thermotrons are stocked by Wholesalers in four models:

MODEL AT-100: *Adjustable (Illustrated).*
MODEL FA-200: *Factory Adjusted.*
MODEL TT-300: *Two-Temp. Constant Pressure.*
MODEL AE-400: *Automatic Expansion.*

Thermotrons are jam-free, field proven, performance tested. They are friction-free because there is no sliding contact between moving parts. They are air-tight, and all gaskets have been eliminated. Settings remain fixed. If you are looking for satisfaction in flow control, look for Thermotrons.

Descriptive literature may be obtained from your Wholesaler or direct from us.

202

ELECTRIC POWER EQUIPMENT CORP.

SHUNK STREET, EAST OF FRONT
PHILADELPHIA 48, PA.

DEWEY 2224

ELPECO GREEN DRAGON

SABECO BRONZE CONNECTING RODS AND LINKS HELP BANISH REFRIGERATION MAINTENANCE PROBLEMS

When refrigerators begin to come off production lines once more, an increasing number of them will be equipped with connecting rods and links made of "SABECO" Bronze. The use of this unusual metal as seals, bearings, and other vitally important mechanical parts is rapidly spreading as more and more manufacturers learn by test that "SABECO" Bronze will not corrode, seize, burn, or pound out. Even when lubrication fails, "SABECO" Bronze parts continue to operate smoothly until corrective steps can be taken. Made from copper, tin, and lead only, with a maximum of 2/10 of 1% impurities, "SABECO" Bronze contains no hard spots to disintegrate into an abrasive, destructive compound. For complete particulars on how "SABECO" Bronze will eliminate or greatly reduce maintenance and replacement costs in your products or equipment, write to Saginaw Bearing Company, 861 S. Water St., Saginaw, Michigan. Cable address, "SABECO".

sabeco bronze

Speed Reducer Powers Truck Cooling Unit Off Drive Shaft During Daytime Runs

ST. LOUIS—Patented after eight years of field operation, a refrigeration system for trucks featuring a compressor designed to be driven from the drive shaft during daytime runs and operated overnight from an electric-motor connection in the garage soon will be placed on the market.

Called the "Kold-Trux," the two-way unit was designed and built 11 years ago by William Ryan, Jr., president of Ryan Meat Co. here, and his associate, Alfred C. Ratermann. Their aim, they said, was to develop a unit which would have "no more fuss or bother on the change-over than merely shutting off the truck motor and plugging in—the same procedure to be reversed in the morning."

The units constructed then to safeguard delivery of meat products from the wholesale house are said to be the same ones now in use on the Ryan fleet of trucks.

INSTALLED IN FEW HOURS

Described as consisting essentially of a compressor, a motor, and the power take-off mechanism, the unit "may be installed on most refrigerated truck bodies within a few hour's time by any good mechanic," it is claimed. "Then any good refrigeration service man can complete the connections to the truck's low side equipment through the liquid and suction lines, and the truck is ready for service."

One of the factors in the compressor's operation is a speed reducer which, according to the Ryan-Ratermann patent (No. 2,382,667), "will give the most efficient speed for the compressor when the vehicle is running at its normal rate of speed; for instance, 40 miles per hour.

"It has been found entirely practicable to operate this refrigerating system without thermostatic controls," the patent continues, "but such thermostatic controls for the system may be used if conditions require them."

INDEPENDENT OPERATION

The patent states that "the compressor and the fans may be operated independently, either by the vehicle or the electric motor, without changing the mechanical driving connections. This is permitted by the unidirectional clutches.

"In other words, when the compressor is being driven by the propeller shaft of the vehicle, the clutch will permit the sheave to overrun the shaft of the motor, and when the compressor is being driven by the motor, the clutch will permit the shaft to be overrun.

"The axis of the shaft of the compressor and the driven shaft of the speed reducer are crosswise of the vehicle, or normal to the propeller shaft of the vehicle," it is explained. "This minimizes vibration.

"It will also be noted that the speed reducer is mounted to one side of the propeller shaft, while the compressor is mounted on the opposite side of the propeller shaft. This gives a balancing effect and also minimizes vibration."

In road use, when the unit is operating from the motor vehicle, the unidirectional clutch is said to permit the device to turn freely, without revolving the rotor of the motor. Likewise, it is pointed out, "when the unit is operating from plug-in on the motor, the clutch permits the compressor to run without producing any torque on the driven shaft of the motor vehicle."

PLATES, COIL USED

Describing the layout of the refrigeration equipment, Mr. Ryan said most of the meat trucks employ two Kold-Hold hold-over truck plates and one small open coil.

A quick-action flat plate may be substituted for the coil if desired, it was stated. The hold-over plates are arranged on the sides; the coil across the front of the truck.

"Normal procedure," Mr. Ryan explained, "is to plug the unit into the 220-volt circuit at the garage at night, to build up the hold-over for the next day. In the morning, when the plug-in connection is pulled and the truck starts rolling for the day, the open coil or flat plate takes over and replenishes the refrigeration as it is used. This action, of course, if from the drive-shaft mechanism."

SPECIAL DESIGN

One Ryan truck is equipped with three Kold-Hold hold-over plates, and no open coil or quick-action plate. Procedure is the same in this case, except that in road use all three plates operate off the shaft-driven compressor.

"Often with this truck, plugging-in overnight is not necessary," it was pointed out. "Hold-over built up during the day after the one initial pull-down not only carries the load but provides enough additional capacity so that the truck can be used for extra cooler-room space overnight without using the electric motor plug-in.

"Though there has been no specific occasion here to use this particular truck for cross-country or unusually long hauls, the logical conclusion is that the truck could be operated on the power take-off indefinitely without returning to the original or any other plug-in source."

The drive-shaft mechanism is preset "fast" for use on city delivery; "slow" on country or long-haul delivery. However, the setting may be changed manually from one to the other at any time routing schedules for any one truck are changed.

As to insulation, which is largely the problem of the body builder, Mr. Ryan recommends a minimum of four inches of Dry Zero, or its equivalent.

He said the units have been operated successfully for eight years, needing only minor repairs and the minimum maintenance required of any compressor assembly.

No definite date has been set for introduction of the unit but Mr. Ryan said "before too long a time" they will be available in a full range of horsepowers and capacities.

Sporting Goods Store Adds Freezers for Hunters

ST. LOUIS — American Sporting Goods Co. here, which claims to be the largest sporting goods store in the nation, will now handle several lines of home freezers in the $550 class to sell to sportsmen to refrigerate their "kill."

"Whenever we outfit a fisherman or hunter with complete accessories for his trip, we automatically inquire what he intends to do with his catch or bag," Harold Sievens of the store pointed out. "Most men tell us that they will take the catch to the nearest locker plant or ice plant for cold storage.

"This gives us an ideal opportunity to point out the advantages of a home freezer, good not only for this purpose, but for regular food as well."

The store has already written several dozen orders.

OPA Alleges Overcharges In $7,498 Damage Suit Against Locker Plant

OKLAHOMA CITY, Okla.—Treble damages of $7,498.50 for alleged violation of frozen locker ceiling price regulations were sought in a suit filed by the OPA April 17 in federal district court against Duck's Frozen Food Lockers, located at 3506 Classen, here.

The petition, alleging that W. S. Duck, owner, made 336 violations, declared that Mr. Duck had 41 drawer type lockers on which the ceiling price was $9.50 per year and 295 door lockers on which the ceiling price was $11.25 per year. He is charged with having sold the lockers for a two year contract period at $25 for the two years on the smaller lockers and $30 for two years on the larger lockers, according to the OPA allegations.

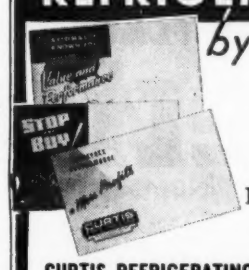
Boone Will Represent Highside In Northeast

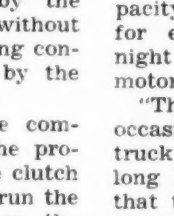
NEWARK, N. J.—George I. Boone & Son, New York City, has been appointed Northeastern sales representative for the Highside Chemicals Co., maker of "Thawzone" and "Trace," announces Laurence V. Gardner, general manager.

Mr. Boone's area will include the New England States, New York, New Jersey, eastern Pennsylvania, Delaware, Maryland, in addition to the District of Columbia.

Bowen
REFRIGERATION SUPPLIES, INC.
Atlanta Jacksonville
Tampa Charlotte
"The South's Largest Refrigeration Supply Jobber"

NIBCO WROT
AND CAST
VALVES AND FITTINGS
for Refrigeration
NORTHERN INDIANA BRASS CO.
ELKHART, INDIANA

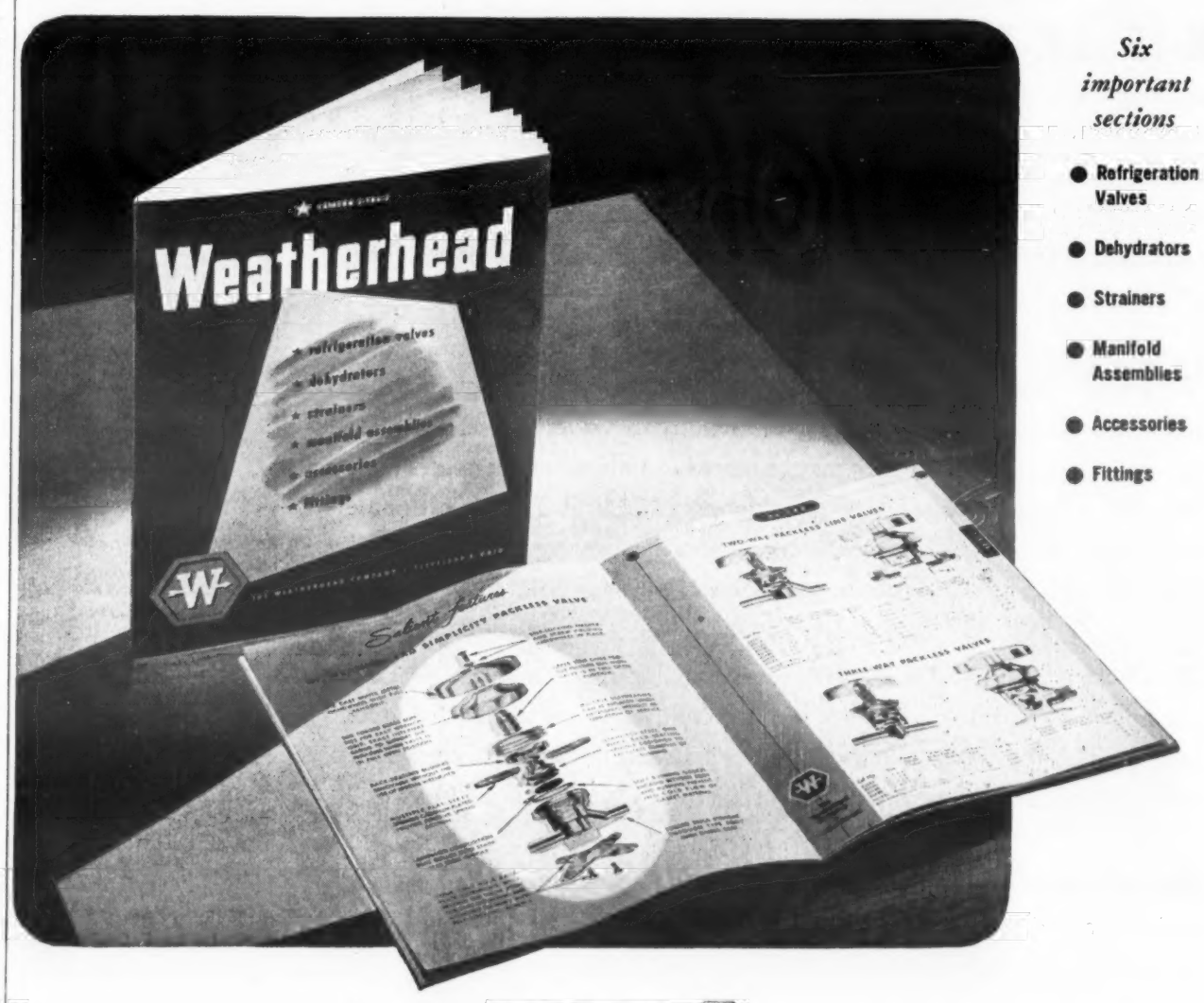
REFRIGERATION by CURTIS

Write for complete information.
Bulletins C-14-M, C-58, C-68-C
CURTIS REFRIGERATING MACHINE DIVISION
of Curtis Manufacturing Company
1912 Kienlen Avenue • St. Louis 20, Mo.

STANGARD
Prime Surface
COLD PLATES
For Maximum Refrigerating Efficiency

THE STANGARD-DICKERSON CORPORATION
46-76 Oliver Street • Newark 5, N. J.
STANGARD KNOWS REFRIGERATION
Copyright 1945 by The Stangard Dickerson Corporation

Why you will want this new Data Book!

If you are connected with the refrigeration industry . . . as a designer, engineer, purchasing agent, or service-man, you'll want a copy of this new catalog. For here is a quick, easy-to-use source of detailed information on Weatherhead parts designed especially for refrigeration and air conditioning applications.

All 40 pages are packed with data, diagrams, dimensions and photographs to help you select the right and best part for original installations or replacement work. Write for your free copy today.



Six important sections
- Refrigeration Valves
- Dehydrators
- Strainers
- Manifold Assemblies
- Accessories
- Fittings

Look Ahead with
Weatherhead
THE WEATHERHEAD COMPANY, CLEVELAND 8, OHIO
BRANCH OFFICES: NEW YORK • PHILADELPHIA • DETROIT • CHICAGO • ST. LOUIS • LOS ANGELES

Freon Condensers • Dry-Ex Water Coolers
• Evaporative Condensers • Forced Convection Units • Oil Separators • Liquid Receivers • Heat Exchangers • Pipe Coils • Hi-Peak Water Coolers • Flooded Water Coolers • Ammonia Condensers
Write for Catalog on any item
ACME PRODUCTS
ACME INDUSTRIES
JACKSON, MICHIGAN
Offices in principal cities

NOW!
Complete Stock
Prompt Shipment
FORGED FLARE NUTS AND FITTINGS
Electrimatic
2100 INDIANA AVE CHICAGO 16 ILLINOIS

Discount Schedules Set For Hinsdale Co.

CHICAGO—Discount schedules on Hinsdale Mfg. Co.'s line of tools and accessory items for the automotive, refrigeration, and other fields for various classes of the trade have recently been established by OPA.

The discounts are to be taken on the list prices established in the Hinsdale Catalog No. 97 as follows:

For sales by the manufacturer to its exclusive distributors	60
For sales by any person to:	
Stocking jobbers	50
Drop shipping jobbers	40
Retailers and industrial users	33⅓
Household consumers	List

These discounts, OPA continued, also apply to all Hinsdale products for which OPA ceilings have been established prior to this order.

Maximum prices for sales by the manufacturer apply to all sales and deliveries since MPR 188 became applicable to such sales and deliveries, and are subject to a cash discount of 1% for payment within 10 days.

However, OPA specified, sales by the manufacturer to ultimate consumers and industrial users are net and f.o.b. the factory, except that full freight shall be allowed for shipments of $100 or more.

On sales by persons other than the manufacturer, these maximum prices are subject to each seller's customary terms and conditions of sales on similar articles. Prices on sales by wholesalers are f.o.b. the seller's city, except that full freight shall be allowed for shipments of $100 or more within continental United States.

Detroit Code Defines Major Replacements

DETROIT — A new interpretation of Detroit's municipal refrigeration code, which somewhat liberalizes the requirements for obtaining permits before proceeding with "major replacement" operations has been issued by the Bureau of Safety Engineering, announces H. H. Mills, chief safety engineer.

"For purposes of obtaining permits, 'major replacements' will be considered as the replacement of 'receivers, condensers, compressors, piping, etc.,' on equipment of 1 ton and more capacity (1½ hp. and over)," according to this interpretation.

In addition, permits are required for such "major replacements" as whole condensing units in sizes smaller than 1½ hp. under the code. No permits are required for any work on self-contained household and commercial units carrying a charge of less than 6 pounds of the "Freon" group of refrigerants, carbon dioxide, or Carrene No. 1. This exemption also applies to self-contained units in industrial occupancies with up to 20 pounds of the same refrigerants.

The bureau found it necessary to make this interpretation because contractors and service men were not certain just exactly what operations were intended to be covered, it was explained.

"Strictly interpreted, these clauses of the code could require that a permit be obtained for changing a bolt on a system, but what we are interested in is avoiding all possible hazards, not tying up the trade in red tape," declared John Rehard, city refrigeration inspector. "It is not necessary, for example, to obtain a permit for replacement of a water pump, because that wouldn't involve any hazard."

Motors Firms Authorized To Adjust Prices Later

WASHINGTON, D. C.—Any seller of integral horsepower electric motors and generators or fractional horsepower electric motors was authorized as of April 16, upon agreement with his buyer, to deliver such motors and generators at a price which may be adjusted upward in accordance with the action to be taken by OPA upon request of the industry.

Until final action is taken by OPA with respect to prices of these products, the manufacturer may not receive payment in excess of the maximum prices in effect at the time of delivery.

This ruling was established by OPA Orders 599 and 600, RMPR 136, in which were contained the following definitions of terms:

"'Integral horsepower electric motors and generators' means all motors, generators and motor generators, rotary converters, dynamometers, inverters, and dynamotors, AC or DC, when built in frames of one (1) horsepower, 1700-1750 r.p.m., continuous open type, or larger, whether with or without integrally built accessories such as brakes, clutches, or overload protection devices, and includes renewal parts for all the items which are listed in this paragraph.

"The term does not include traction motors, traction generators, rotating welding equipment, turbine generator units and power driven devices, such as pumps, fans, compressors, grinder parts, etc., whether integrally or separately mounted," OPA said.

"'Fractional horsepower electric motors' means all motors, generators, converters, inverters, and dynamotors, AC or DC, when built in frames smaller than one (1) horsepower, 1700-1750 r.p.m., continuous, open type, whether with or without integrally built accessories such as brakes, clutches, overload protection devices, and includes separately mounted accessories, such as starting relays, plugging relays, and speed controllers, when sold in conjunction with the motors, and includes all renewal parts for all of the above items and factory rebuilt motors.

"The term does not include toy motors and generators, automobile starting motors and generators, and power driven devices, either integrally or separately mounted, such as pumps, fans, compressors, grinders, etc.

Home Electrification 'Degrees' Described

PITTSBURGH — Four degrees of home electrification are outlined for consumers, architects, builders, and contractors in a new booklet announced by the Westinghouse Electric Corp.

The 12-page illustrated booklet, which explains that the degree of electrification is not dependent upon the size of home, contains wiring diagrams, and lists of basic major equipment for the various degrees.

The "Thrift" degree consists of an electric range, water heater, refrigerator, washing machine, ironer, and furnace. Lighting is primarily by incandescent lamps.

The "Budget" degree adds a dishwasher and home freezer, with an automatic washer replacing the standard washing machine. With each degree the use of fluorescent lighting is increased. A garbage disposal unit, an automatic clothes dryer, a Precipitron, and increased automatic features are added to the equipment in the "Budget" degree to form the "Ideal" degree.

The "De-Luxe" degree of electrification adds a central air cooling unit connected to ducts of a forced heating system. Fluorescent lighting is used almost exclusively for not only illumination but also for decorative purposes.

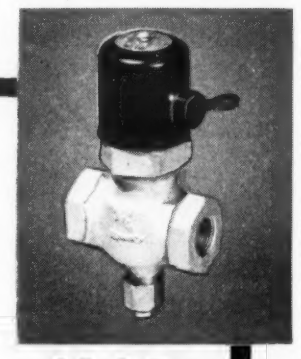
Wilder Appointed To Eaton Mfg. Co. Post

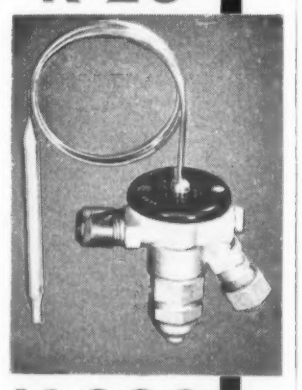
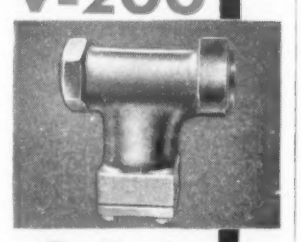
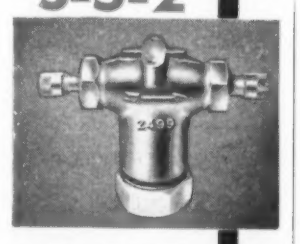
CLEVELAND—Howard H. Wilder, formerly research metallurgist at the Wilson Foundry Machine Co., has been appointed chief metallurgist of the Eaton Mfg. Co. Foundry Division here, announced Edward C. Hoenicke, general manager.

During the war, Mr. Wilder was a member of the gray iron foundry section of WPB. Other positions held by him in the past include foundry service engineer with the Vanadium Corp. and metallurgist with the Detroit Stoker Co. located at Monroe, Mich.

Mr. Wilder is secretary of the Detroit chapter of the American Foundrymen's Association.

For Efficient Refrigeration
Use Proved and Improved
Controls


K-15

K-20

V-200

S-5-2

S-5-3

Here is efficient, unsurpassed refrigeration equipment. Specifically designed for the control of Freon, Sulphur-dioxide, Methyl-chloride and Ammonia. Also air, water, gas, light oil, etc. Suction lines or hi-pressure liquid lines.

K-15 and K-20 Series. Magnetic liquid and suction stops. The direct acting single seated needle valves and the piloted piston valves respectively. All valves are held open electrically, thus eliminating unnecessary compressor burdens. Tight shut-off for fractional tonnage installations. Features are Die-forged bodies, Hardened steel needles, Corrosion-proof internal parts, Gasketless construction, Integral mounting features, Moisture-proof high pressures. Single or dual voltage coils.

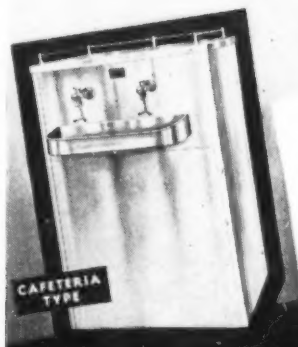
V-200 Thermal Expansion valve. Interchangeable Orifice Cartridges permit proper sizing on the job, making this literally six valves in one. Unmatched sensitivity, semi-liquid charged; may be placed in ambient temperatures higher or lower than bulb temperatures with no loss of control. Frictionless pusher-pin, ample diaphragm, plus balanced, low-rate adjusting spring. Carefully lapped hard-faced ball insures tight shut-off.

Strainers S-5 Series. The importance of suitable strainers ahead of a flow control device, such as automatic or regulating valves of any kind for long operating life, cannot be too heavily stressed. Bronze, iron or semi-steel bodies, Monel, reinforced bronze or felt screens, 3/16 to 120 strainer meshes.

For complete *specifications on these and other refrigerant controls in the broad General Controls line, write for the new 1946 Catalog 52C. Send request to your nearest Factory Branch, Distributor or Refrigeration Supply House.*

GENERAL CONTROLS
801 ALLEN AVENUE GLENDALE 1, CALIF.
FACTORY BRANCHES: PHILADELPHIA • ATLANTA • BOSTON • CHICAGO • DALLAS
KANSAS CITY • NEW YORK • DENVER • DETROIT • CLEVELAND • PITTSBURGH
HOUSTON • SEATTLE • SAN FRANCISCO • DISTRIBUTORS IN PRINCIPAL CITIES
31-1

Filtrine
HIGH EFFICIENCY
WATER COOLERS

INDUSTRIAL TYPE

CAFETERIA TYPE
STAINLESS STEEL Cafeteria Cabinet Type Water Coolers . . . all sizes.
INDUSTRIAL MODELS . . . for temperatures as low as 34 degrees.
Delivery Now
FILTRINE MANUFACTURING CO.
53 Lexington Ave. Brooklyn 5, N. Y.
Manufacturers of Coolers & Filters for over 40 Years

In Export News

MAURICE ZATKO
Heads new Jordon Export Dept.

* * *

RALPH H. LINDERMAN
To Latin America for Perfecold.

Palestine Assembly Center?

PALESTINE—In view of the market here and in nearby countries for refrigerators and air conditioning assembly plants, it has been suggested that such equipment be assembled in Palestine and distributed to other Middle Eastern areas.

3 Companies Probe Latin American Markets

Export Dept. Set Up By Jordon; First Of Shipments Processed

PHILADELPHIA—Organization of an export department, with special emphasis on Latin American markets, and appointment of Maurice Zatko as manager are announced by Jordon Refrigerator Co. here, manufacturer of refrigerators for commercial and industrial purposes.

Anticipating extensive activity in foreign trade, Jordon said it has set up a complete department, including facilities for the translation of 22 languages.

Initial shipments of frozen food display cases and beverage coolers to South America are now being processed by Mr. Zatko. Jordon said these shipments soon will be augmented by farm and home freezers, reach-in cases, meat display cases, and other large equipment.

According to the company, formation of the new department was due to the great interest and demand coming from Central and South America for commercial refrigeration products. While on display at the Frozen Food Fair in New York City, new Jordon models "met the immediate approval of several dealers from Cuba and Puerto Rico," it was stated.

Export dealers were invited to have their names placed on Jordon's mailing list to receive periodic bulletins which the company said will answer many questions on commercial refrigeration. "JORDONREF" is the cable address.

* * *

Perfecold International Seeks Wide Coverage

LOS ANGELES—Building up Perfecold International's foreign distributor organization to give comprehensive coverage in Latin America is the objective of a six-month tour of that area now being made by Ralph H. Linderman, vice president and export manager.

Mr. Linderman will contact refrigeration distributors in Mexico, Central and South America, and the West Indies to acquaint them with Perfecold's sales policies, merchandising plans, and service methods. It is hoped, the company said, "that Perfecold's policy of tying sales and service together will be received favorably by the refrigeration people in our neighboring countries."

Other aspects of the trip involve accumulation of Latin American market data and a survey to determine the possibilities of manufacturing commercial refrigeration in the countries visited.

* * *

Harris Picks Distributors In S. A. For Farnsworth

FT. WAYNE, Ind.—One phase of an export program which Farnsworth Television & Radio Corp. expects will give it eventual world coverage was undertaken by Export Manager Frank Harris, during an air tour of South America to select distributors.

Mr. Harris began his tour Nov. 15, with the first stops being made at Havana and Camaguey, Cuba. After trips to La Guaira and Caracas in Venezuela, he next visited the Colombian cities of Barranquilla, Medellin, Bogota, and Cali; then to Guayaquil, Ecuador; and from there to Lima, Peru.

A short jaunt into the interior took Mr. Harris to La Paz, Bolivia. Back on the coast he stopped in Santiago and Valparaiso, Chile.

At the next stop, Buenos Aires, Argentina, Mr. Harris ran into the national strike and lock-out. Leaving there, he headed for Montevideo, Uruguay, with Brazil as the next destination.

While there, he visited Porto Alegre, Sao Paulo, Recife, Fortaleza, and Rio de Janeiro.

After the Brazilian trips, Mr. Harris stopped off at Trinidad in the British West Indies for his last call before returning home. During his absence, activities of the export department were handled by Margaret Wallace, assistant manager.

WORLD TRADE NEWS

DeLind to Guide Borg-Warner International

CHICAGO—John W. DeLind, Jr., formerly director of exports for The Crosley Corp., was recently elected president of Borg-Warner International Corp., according to an announcement by C. S. Davis, president of Borg-Warner Corp.

Mr. DeLind succeeds R. W. Gifford, who becomes chairman of the board of the International Corp.

Other shifts in personnel of the International Corp. include appointment of Arch Black as vice president in charge of appliances and J. L. Cunningham as vice president in charge of automotive parts.

Mr. DeLind will coordinate foreign sales of the automotive, industrial, and appliance divisions and subsidiaries of Borg-Warner and associated companies. He has a wide background in these fields.

In 1926, Mr. DeLind joined the Overseas Motor Service Corp., a division of General Motors Corp., as far eastern regional manager. He later became parts, accessories, and equipment liaison in Detroit between the overseas and domestic divisions of G-M.

At Crosley, Mr. DeLind organized that firm's export program. In some of the more important overseas markets, he arranged for the fabrication of American products.

MacGillivray Picked To Push Westinghouse West Coast Exports

SAN FRANCISCO—As a part of Westinghouse Electric Corp.'s plans for expanded export trade from the West Coast to Australia, the Orient, and western South America, R. H. MacGillivray was recently appointed to the newly created post of reigonal supervisor of the Pacific Coast area for Westinghouse Electric International Corp., foreign distributor for the parent company.

Mr. MacGillivray, who will make his headquarters here, will assist in the detailed handling of all equipment to be negotiated, sold, or installed in the Pacific basin. His appointment was announced by Charles A. Dostal, vice president in charge of the Pacific Coast district for Westinghouse Electric Corp.

Prior to assuming his new position, Mr. MacGillivray was regional export supervisor in Washington, D. C. There, during the war, he made Westinghouse equipment available to foreign government missions.

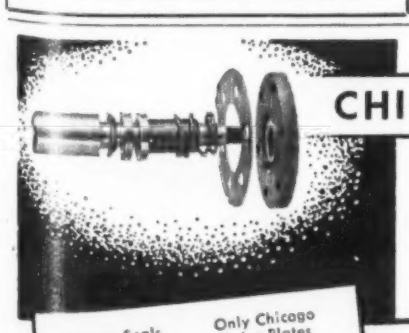
Since joining Westinghouse in 1922 as an industrial sales engineer, he has filled such posts as merchandise manager of the northern New York area and headquarters syndicate representative.

Dominican Market

WASHINGTON, D. C.—"A ready market" exists in the Dominican Republic for refrigerators, radios, and similar commodities, a report to the Department of Commerce says.

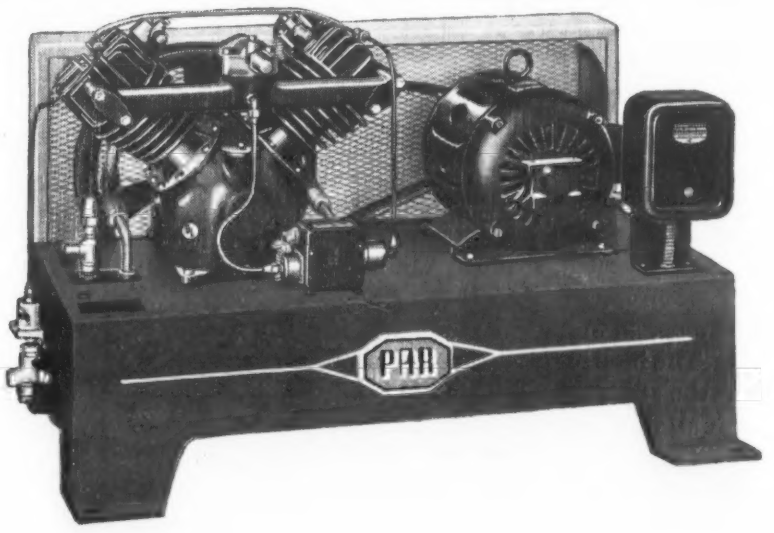
It's
FULL FLOODED
THE HUBBELL-YODER REFRIGERATION PLATE
● Every square inch of surface is prime heat pickup
ENGINEERING SERVICE, INC.
1309 West 80th St., Cleveland, Ohio
Sole Agents

NIAGARA
"NO-FROST" METHOD WITH SPRAY COOLERS
...gives always full capacity because there is no interruption for defrosting at sub-zero temperatures; protects quality in foods.
NIAGARA BLOWER COMPANY
25 Years of Service in Air Engineering
Dept. AC, 56 E. 45th St., New York 17, N. Y.


CHICAGO SHAFT SEALS
Acknowledged as the industry's most effective seal for replacement (even on scored or bent shafts) because it has the self-adjusting sleevelock. Quickly installed. For REAL SATISFACTION never accept a substitute. At all jobbers.
Chicago Seals are best for Coldspot. ● Only Chicago Valve Plates have replaceable valve seats.
CHICAGO SEAL CO.
20 NORTH WACKER DRIVE, CHICAGO 6, ILL.

Balanced Performance
Compare PAR from Every Angle
CONSTRUCTION
PERFORMANCE
SERVICE
You'll quickly see WHY that... by Comparison, they're buying PAR
PAR BY Lynch

COMPARE Par from every angle—*Construction* . . . streamlined, rugged, with many outstanding features, makes servicing a simple easy task—*Performance* . . . quiet, slow speed, assures extra years of dependable efficient operation—*Service* . . . Par jobbers located in important trading centers from coast to coast offer complete Par service. See your Par Jobber today or write for Par Catalog R-97 and *compare!*



PAR—Condensing Unit Line sold exclusively through Franchised Refrigeration Supply Jobbers!

Lynch . . . By Comparison — You'll Buy PAR
Manufacturing Corporation
TOLEDO 1, OHIO, U. S. A.

Freighter Provides 800 Tons of Refrigerated Cargo Space with Six 15, Three 10 hp. Units

Cramped Quarters Aboard 18000-Ton Ship Demand Complex Installation

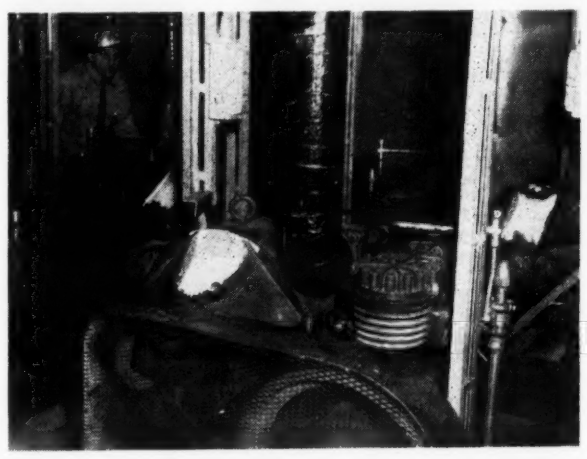
By Donald F. Daly

The refrigeration system to handle the cargo refrigeration on one of the American President Line's new postwar super freighters has every device and improvement usually found on plants of this type, and quite a few innovations.

These ships rank with the very finest cargo vessels ever built. They are of 18,000 gross tons and were constructed to compete with any country in the world in any form of trade. They are what is called dual purpose ships, that is, they can carry any sort of dry, liquid, or refrigerated cargo. The refrigerated space represents only a part of their total capacity, but it is not a small installation.

The installation is so complex and so complete that it is hard to do justice to it. Dick Carman, superintendent of the refrigerator department at the Kaiser Co. Shipyard No. 3 at Richmond, Calif., showed me around.

First stop was the refrigeration machinery room where the condensing units, and all of the apurtenances thereto, are located. This room is 24 ft. long and 20 ft. wide.



At left Dick Carman, superintendent of the refrigerator department at Kaiser's No. 3 shipyard, Richmond, Calif., is shown inspecting four of the six 15-hp. Carrier units used to supply refrigeration for 800 tons of cargo space on an American President Lines superfreighter.

There are nine condensing units in all, six 15-hp. and three 10-hp. Carriers. Every inch of the floors, wall, and ceiling is utilized. (Deck, bulkheads, and overhead are the shipboard terms, but let's stick to shoreside expressions.) The entire ceiling is given over to the nine condensers and their water piping, water regulating valves, and cross-connections.

One whole side of the room is taken up by motor controllers. There are 18 of these. The other walls are taken up by the receivers, refrigerant distribution manifolds, and their cross-connections. All units operate on a load. There is no stand-by unit, but the piping is so arranged that any condensing unit can pull on any load.

The motors are all direct current, and all have variable speed rheostats so that they can be operated at any speed from 1,100 r.p.m. to 1,800 r.p.m. In addition to the conventional starting control which can be set to operate on either hand or automatic, there is a push button control on the motor frame that will stop the motor, run it on automatic, or run it on hand operation. The controls for all of the motors used on the systems are in this room. This includes the blower coils, the circulating fans, the condenser water pump, and the defrost water pump.

The combined high and low pressure switches, and the high and low pressure gauges for each unit, are all mounted on one board where they are readily accessible to the operator.

Alongside of the main control panel is an electrical indicating resistance thermometer. This instrument is battery operated and by means of it the temperature of any or all refrigerated rooms can be taken without leaving the machinery room. There is a large dial which shows the temperature reading, and two selector dials. Manipulation of these dials will give a reading at any one of 18 different places.

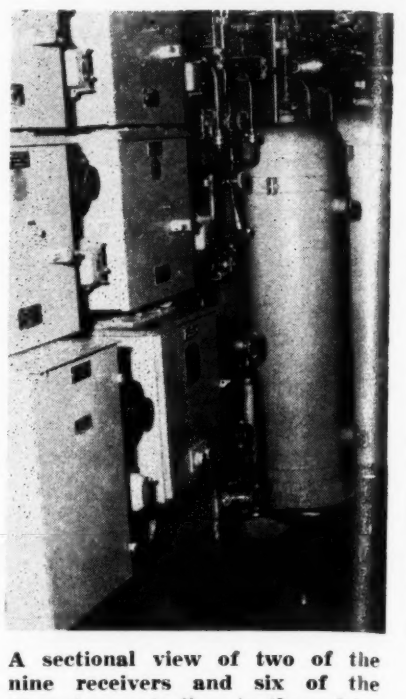
In the rooms cooled by pipe coils the reading is taken in the conventional manner of any distant reading thermometer. On the blower coils the reading is taken at two places—the air entering the blower and the air leaving the blower.

The value of this instrument is great. If the operator notes that one of his units is not acting right, or if the high or low pressure gauges seem to be off, all he has to do to check conditions in that particular room, is to take a reading with his electrical thermometer. Then too, it saves the operator a lot of steps in keeping his log. He can take hourly readings if that is required.

Just above this instrument is the safety alarm, which is standard equipment on most large plants, and precludes the possibility of anyone being locked in one of the rooms. Another feature that saves the legs of the operator is the tell-tale bulls eyes for the lighting system.

Every light from the refrigerated rooms is brought into this tell-tale panel, and can be shut off from the machinery room. The operator can also check any unauthorized entry into the rooms in this manner.

The plant is protected by every known safety device. There is the conventional spring operated relief valve which by-passes the refrigerant from the discharge side to the suction side of the compressor in case of excessive pressure. There is another spring operated relief valve, set to open at 200 lbs., on the liquid line from each receiver.



A sectional view of two of the nine receivers and six of the 18 motor controllers in the refrigeration machinery room, which is a scant 20 x 24 ft. in size.

In addition there is a rupture disk which will burst at 250 lbs. pressure on the top of each receiver.

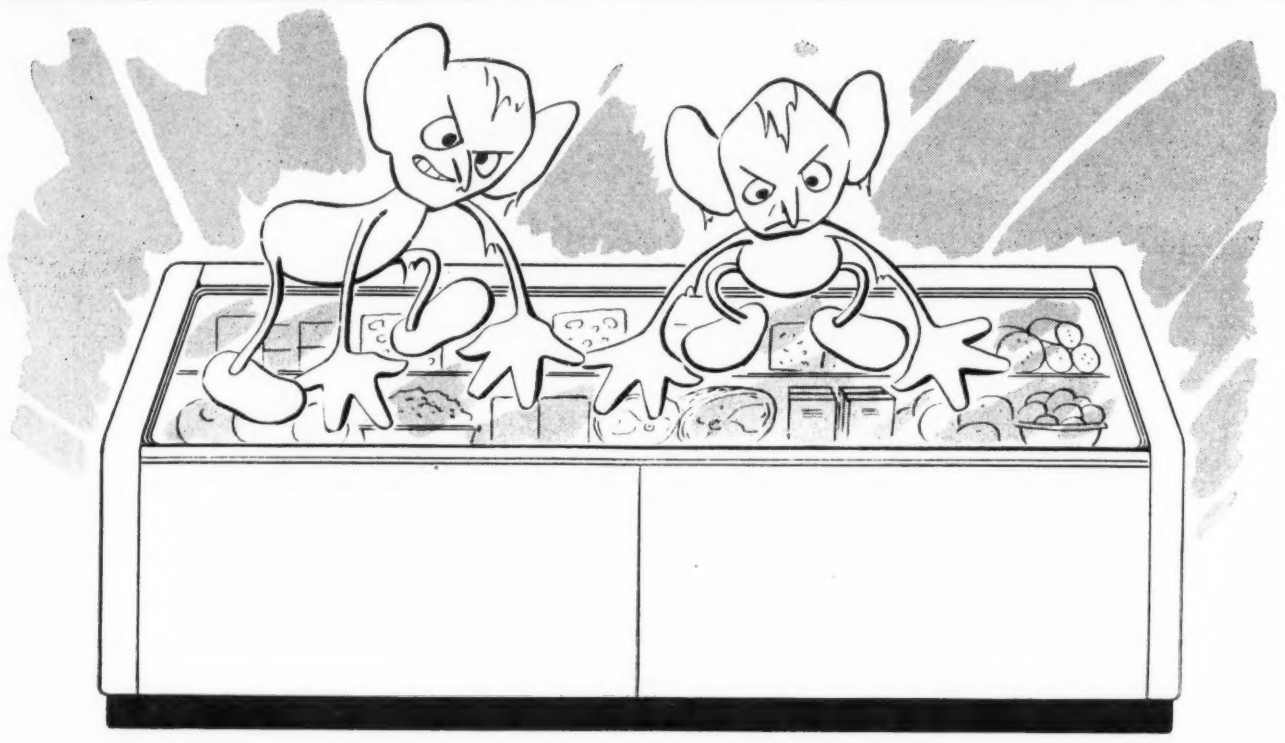
The discharge from these relief valves are all tied into an overboard line which will vent the refrigerant to atmosphere in case of rupture. This is a safety precaution necessary to protect the ship and the operator.

The entire plant holds 3,000 lbs. of "Freon-12."

There is a manually operated valve just before the overboard line leaves the ship. A pressure gauge near this valve is read frequently by the operator. If something goes wrong and he cannot remedy the cause, then he can open this valve and relieve the pressure.

There is so much piping in such a small area in this installation, it must have given the installation mechanics many a headache to figure it out. In Marine work the object is to reduce the number of fittings to a minimum. Wherever possible

(Concluded on next page)



Q: What can you do about Sweating and Fogging?

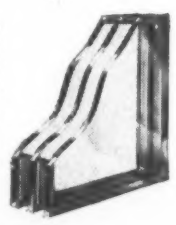
A: Build 'em out... with Thermopane REG. U.S. PAT. OFF.

The way to keep moisture and dirt out from between the panes of a food case is never to let them in. *Thermopane*—the factory-fabricated, multiple-glass insulating unit made by Libbey·Owens·Ford—is hermetically sealed to keep out these enemies of clear vision.

Thermopane units come built to your own specifications. The interior glass surfaces are factory cleaned and, at the same time, the air between them is sealed in with all dust and moisture removed.

Besides insuring a clear front on your case, *Thermopane* reduces your labor cost because you install the unit like a single piece of glass. Write today for prices and specifications to Libbey·Owens·Ford Glass Company, 1256 Nicholas Building, Toledo 3, Ohio.

GET THESE 5 ADVANTAGES OF THERMOPANE



1. INSULATING AIR SPACE. The layer of air inside the *Thermopane* unit is scientifically cleaned, dried and hermetically sealed at the factory. This sealed air space gives *Thermopane* its high insulating efficiency.

2. L·O·F'S BONDERMETIC SEAL. This metal-to-glass seal bonds the panes of glass into one unit to guard against dirt and moisture entering the air spaee.

3. CLEARER VISION. The sealed-in dry air greatly reduces the possibility of condensation.

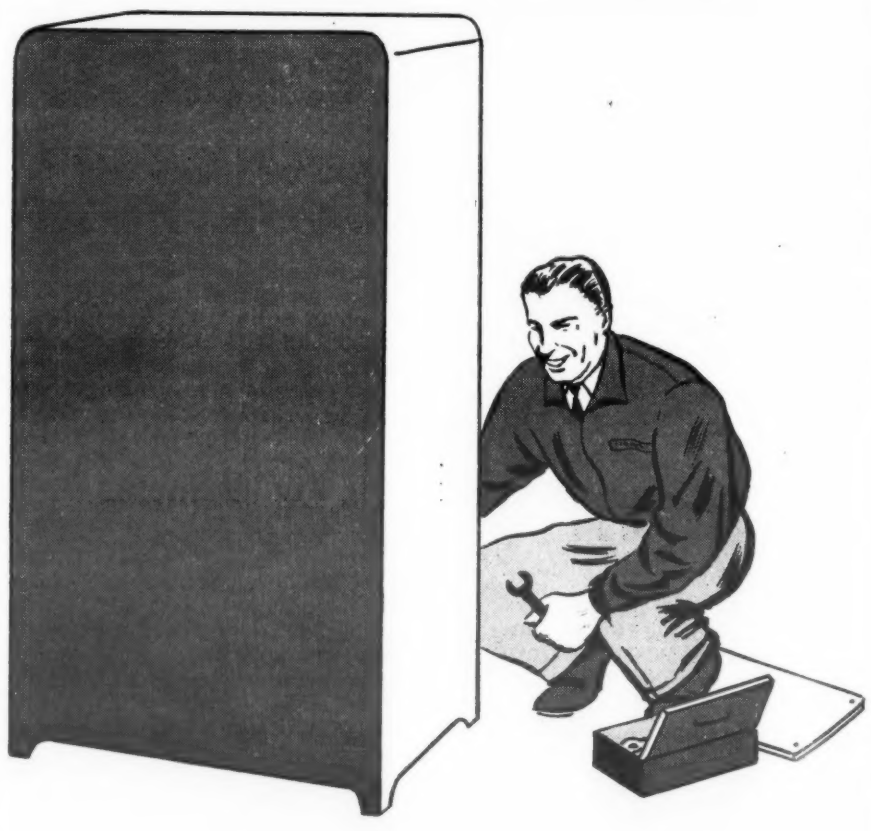
4. ONLY TWO SURFACES TO CLEAN. The glass surfaces inside a unit are specially cleaned at the factory. No extra cleaning is required.

5. FABRICATED TO SIZE. Each *Thermopane* unit is manufactured to your exact specifications—requires no cutting or trimming, and is easily installed like a single pane of glass.

WHEREVER VISION IS IMPORTANT USE L·O·F Polished Plate GLASS

LIBBEY·OWENS·FORD a Great Name in GLASS

A HAPPY WORKER



Why is a service-engineer happy when he installs a Rotary Seal Unit? Because he knows Rotary Seals come ready to install—no complicated parts to fool with. He also knows when once installed the job is finished.

ROTARY SEAL HAS PIONEERED IN THE MANUFACTURE OF MECHANICAL SHAFT SEALS. BECAUSE OF THIS SPECIALIZATION IT OFFERS THE BEST IN SHAFT SEALING.

ROTARY SEAL COMPANY
2020 N. Larabee St. • Chicago 14, Ill.
Canadian Office; 382 Victoria Ave., Montreal 6, Canada

Refrigerated Cargo Space Occupies One Hold, 4 Decks of American Line's Ship

(Concluded from preceding page)

the pipe is bent, and all joints are silver soldered. Very few flare fittings are used.

Every unit is cross-connected so that any pump can pull on any load. The liquid lines, suction lines, and overboard discharge lines are all interlocked. So too, are the water connections to the condensers.

There isn't enough pump down capacity to hold all of the charge for one system in its own receiver, so the refrigerant must be stored in the coils. If one section of the coils has to be opened it is possible, by means of this interlock system, to transfer the refrigerant to any part of the system.

The refrigerated cargo space occupies all of one hold of the vessel and is on four decks. That's equivalent to a four story building. There are two rooms on each level. The space being divided at the center line of the ship, and the partition bulkheads run fore and aft.

The rooms are arranged around the center of the hold. The center portion is taken up by the hatch, or opening through which the cargo is loaded. The hatch opening is about 25 ft. square. Between the hatch opening and the inboard bulkhead of the rooms there is a loading gallery about 10 ft. wide. On the two upper levels the hatch openings are covered, after loading, by removable wooden panels or hatch covers. These covers also serve as a loading platform.

THEN USED FOR DRY CARGO

After the refrigerated cargo is loaded this space is used for dry cargo. The lower levels, of course, must be loaded first. The two lower hatch openings are covered by insulated plugs which have the same amount of insulation as the ceiling of the room. After loading these plugs are dropped into tapered grooves and are sealed by gaskets, thus becoming part of the ceiling of the room.

The refrigerated rooms are designed to conform to the curvature of the hull and are very heavily insulated. The deckheads have 14 in. of spun glass, and the sides and partitions have 12 in. of spun glass. The decks are of steel, all the insulation being on the under side.

Where the deck joins the outside hull (skin) of the ship, 4 in. of block cork is layed on top of the steel deck to prevent transfer of heat to the hull of the ship. This extends into the room about 5 ft. The cork is layed on a lead pan which is flashed up on the walls 12 in. It is then covered with 2 in. of cement to protect it from damage.

The three top levels are cooled by blower coils, the bottom room is cooled by pipe coils. The lowest coil on the job is about 40 ft. below the level of the compressors. No oil traps or oil separators are provided. In the rooms cooled by pipe coils the air is circulated by six fans at various locations in the room where dead air spots might occur.

Wherever the connecting pipes are taken overhead above the cargo space they are heavily insulated to prevent water dripping during the off, or defrost cycle.

SEVEN COIL CIRCUITS

There are seven coil circuits in this room, each fed by its own expansion valve. All pipe coils are defrosted by hot gas.

One safety precaution found almost universally on shipboard, that would not be needed on a shoreside installation, is the use of flood plugs between all rooms. These plugs are 20 x 20 in. and are constructed of the same material as the walls. They are set into the partitions at a height of about 12 in. above the deck. They just set in the openings provided and can be pushed out from either side. Guards are built around them so they cannot become jammed during loading.

In case one of the rooms is penetrated by shell fire, torpedo, or collision—as the water rises in the room it's weight pushes out these plugs and allows the water to flow to both sides of the ship, thus equalizing the weight and distributing the load so the ship can be kept on an even keel.

The blower coils are located in one end of each room. Access to the coils is by a small door not used for loading. Most of the rooms are "L" shaped and the air from the blowers is evenly distributed throughout the room by ducts.

The suction for the blower is taken inside the room, but provision is made to take part of the air from the outside when fruit or vegetables are carried. This is necessary to displace the carbon dioxide generated by the decomposition of the fruit and vegetables. If fresh air is not introduced regularly to displace this foul air the cargo will be discolored, and in some extreme cases, badly damaged.

HOT WATER DEFROSTING

The blower coils are equipped for hot water defrosting. A new (to me) angle in water defrosting has been used. The discharge water from the condensers is diverted to a pump and is brought under pressure to the defrost piping over the coils. Since this water leaves the condenser at from 90 to 95° F., it is very effective and provides an ever available source of warm water for this purpose.

On shipboard sea water is used for cooling and the water is not recirculated. However, I see no reason why this method could not be used where the water is re-circulated. This method would be especially effective where the winter temperatures are low, and where the outside water supply is sometimes but a few degrees above freezing. The coils were treated (electro-plated) to resist the corrosive action of salt water.

The suction and liquid line controls are located just outside each room in the hatch area galleries. Here again, something new has been added. The control panels are so constructed that the rooms can be operated at either 0° F. or 35° without any major changes or much effort by the operator.

Each liquid manifold is equipped with two expansion valves, one with an orifice for 0° F. operation, and one for 35° operation.

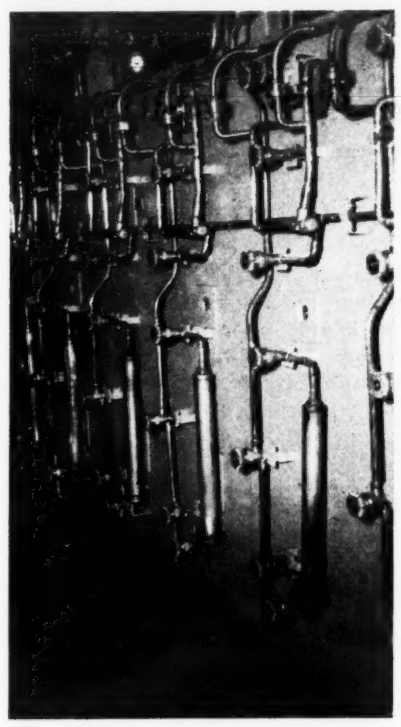
TWO THERMOSTATS PER ROOM

Each room is equipped with two room thermostats to control the solenoid valve. One set to cut the liquid line solenoid out at 0° F., the other set to cut it out at 35° F. These thermostats can be changed by flipping a switch in the machinery room. For 35° F. operation the pump operates through a constant pressure valve. For 0° F. temperatures it operates through the by-pass.

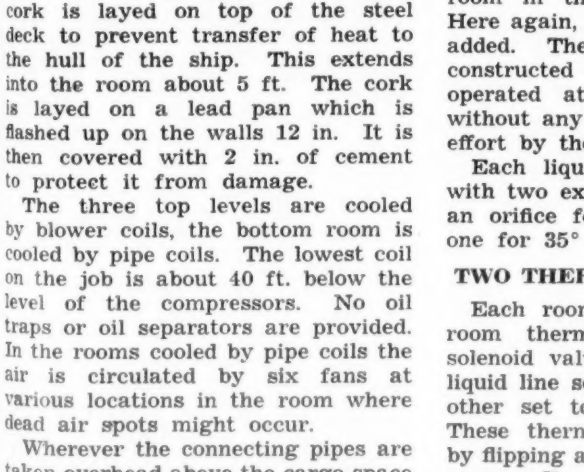
When the operator wishes to change temperatures he flips the solenoid switch in the machinery room, shuts off the expansion valve not to be used, and opens or closes, as the case requires, the by-pass on the constant pressure valve manifold. The low pressure cut-out switch setting would have to be changed, of course.

Each of these ships will carry a crew of four operators, a chief operator and three assistants, one for each watch. The chief works days, but is subject to call at all times. He is in full charge and has full responsibility.

The installation, operation, and service on these plants requires the most highly skilled mechanics of any branch of the refrigeration service industry. They pay well and the working conditions are good. The opportunities in Marine refrigeration are many, and offer jobs to try the mettle of the most experienced refrigeration service engineer.



Six of the nine dryer manifolds and liquid line interlock piping.



At left Larry Banta, refrigeration department supervisor at the Kaiser No. 3 Shipyard, stands at the main control panel for condensing units. On the panel are nine pressure cut-out switches, pressure gauges, condenser water pump button (left center), and water defrosting pump button (right).

THIS SYMBOL IDENTIFIES

Better HEAT EXCHANGE EQUIPMENT *for* AIR, GASES AND LIQUIDS

Outstanding efficiency, dependability and economy in operation are responsible for the ever-increasing popularity of d-h equipment. These advantages are proven by better performance—in AIR-CONDITIONING, REFRIGERATION, PETROLEUM, AIRCRAFT and GENERAL INDUSTRIAL fields.

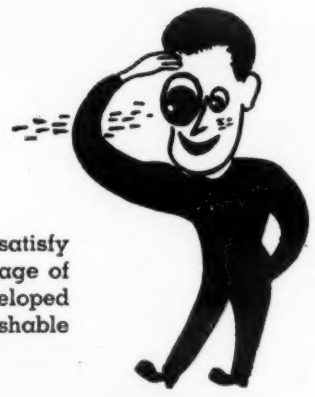
Scientifically designed and manufactured to highest quality standards, all units are guaranteed to give complete satisfaction.

When you think of heat exchange, think of d-h, symbol of the finest in this field for nearly four decades. If you have a special problem why not write us about it? At your service will be the largest factory in the west with complete facilities for engineering, designing and manufacturing heat exchange equipment.

drayer-hanson

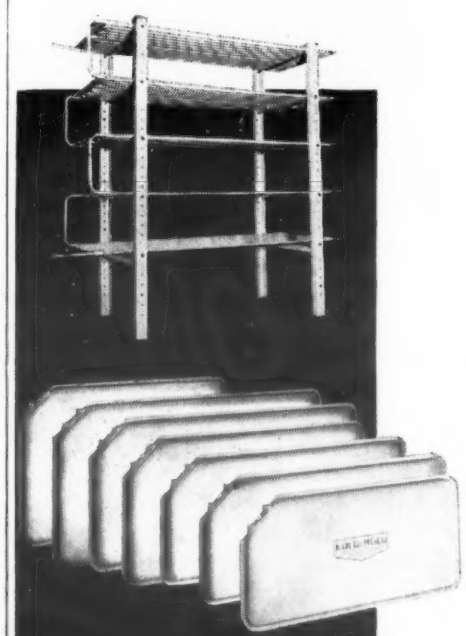
P.O. BOX 2215 TERMINAL ANNEX • LOS ANGELES 54, CALIF.

ear to the ground . . .



. . . eye to the future

Keeping an ear to the ground has enabled Kold-Hold Engineers to fully satisfy changing refrigeration needs for over a decade in the transportation and storage of perishable items. With an eye to the future, Serpentine Plates have been developed to provide a more satisfactory, modern, low cost method of protecting perishable goods through complete processing between the farmer and consumer.



The construction of Serpentine Plates eliminates the necessity for internal tubing thereby decreasing their weight per square foot. It also insures complete refrigerant circulation through all tubes and prevents oil logging. The Serpentine Principle develops the highest rate of heat acceptance ever attained with natural convection lowsides.

Whether used as Plates, Banks of Plates or Fabricated into Stands or Liners, Serpentine Plates have unlimited possibilities in the development of newly designed units. In addition they are also ideal for the conversion of old cabinets, coolers or fountains.

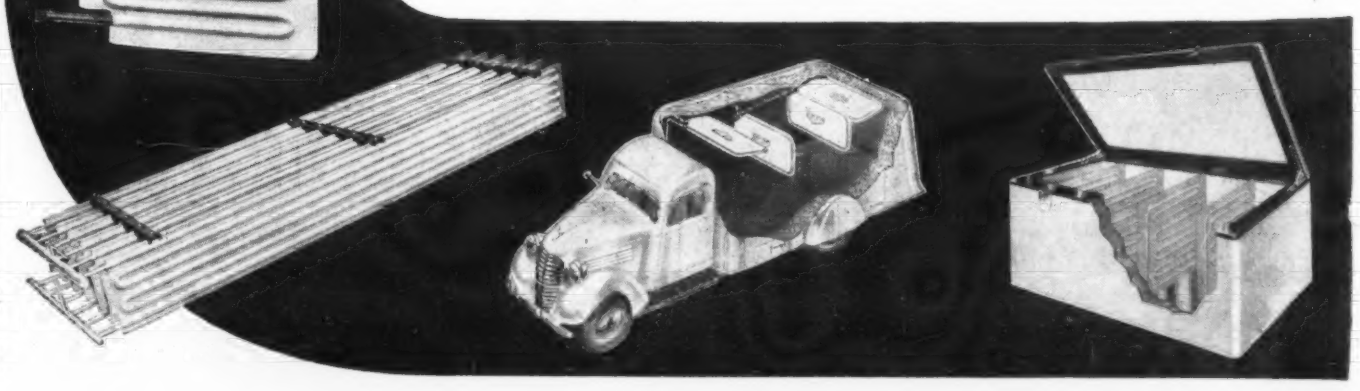
In truck refrigeration streamlined "Hold-Over" Plates maintain the temperature of delivery truck bodies at the uniform level necessary in the successful transportation of fresh meat, ice cream and frozen foods.

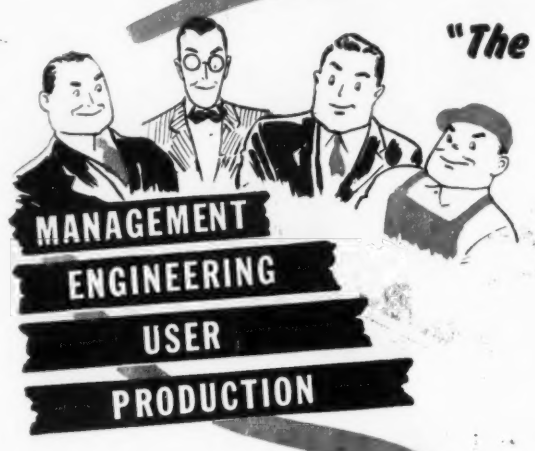
Keeping an ear to the ground and an eye to the future through use of Serpentine Plate Type Evaporators will build greater profits for you through more satisfied customers . . . less spoilage . . . and lower operating costs. Write today for full information on these modern refrigeration methods.

KOLD-HOLD

KOLD-HOLD MANUFACTURING COMPANY

500 North Grand Avenue Lansing 4, Michigan



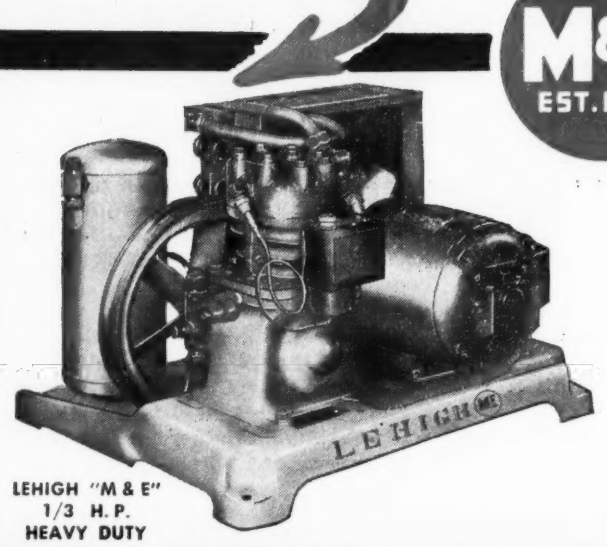


"The Lehigh Plan bridges the seller, user, service man-"

SAYS THE LEHIGH TEAM

1. A sound merchandising plan that assures ample profit and reduces inventory requirements to a minimum. 2. Proven quality and performance with reliable ratings. 3. One of the easiest units to service. Parts are interchangeable and servicing problems in general have been greatly simplified.

M&E EST. 1866



LEHIGH "M & E"
1/3 H. P.
HEAVY DUTY

LEHIGH
COMPLETE LINE TO INCLUDE
1/4 TO 5 H. P.

Exceptionally compact in design. Ideal for small mounting dimensions. Heavy-duty capacity. Adaptable to all high, medium and low temperature commercial uses. Produced in large volume by one of the most modernly equipped plants in America. Current model data sheets on request.

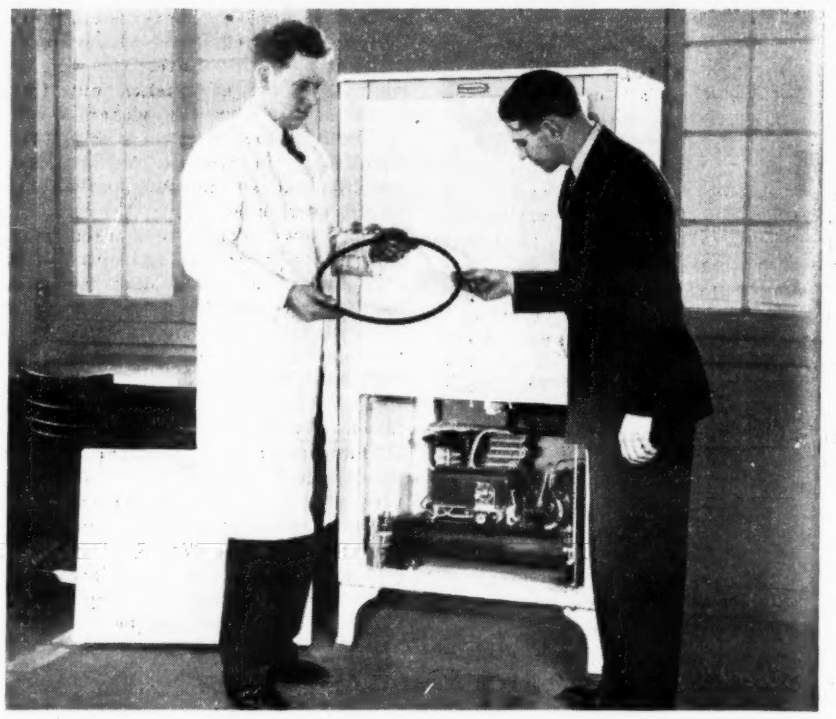
M&E REFRIGERATION DIVISION

LEHIGH FOUNDRIES, Inc.
Plant: LANCASTER, PENNA.

Servicing Commercial Refrigeration Systems

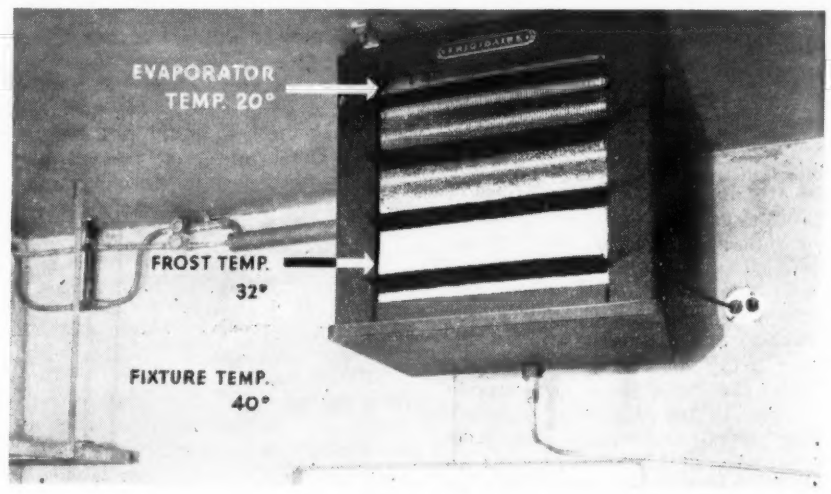
Instalment No. 8

25—(C) Belt Trouble



The heavy load may also cause *belt trouble.* Belts naturally wear out in time, but when a user says, "that last belt you put on didn't last any time at all," start looking for the trouble. High head pressure will often be the cause.

26—(D) Improper Defrosting (Fixture Too Warm)



Another common result of high head pressure is *improper defrosting (fixture too warm).*

Because high head pressure increases running time, the evaporator may not have time to defrost between cycles. This frost may insulate the evaporator and prevent it from absorbing heat from the fixture.

Without proper diagnosis one might set the switch colder, but this would only aggravate the improper defrosting condition.

BEHIND THE SCENE

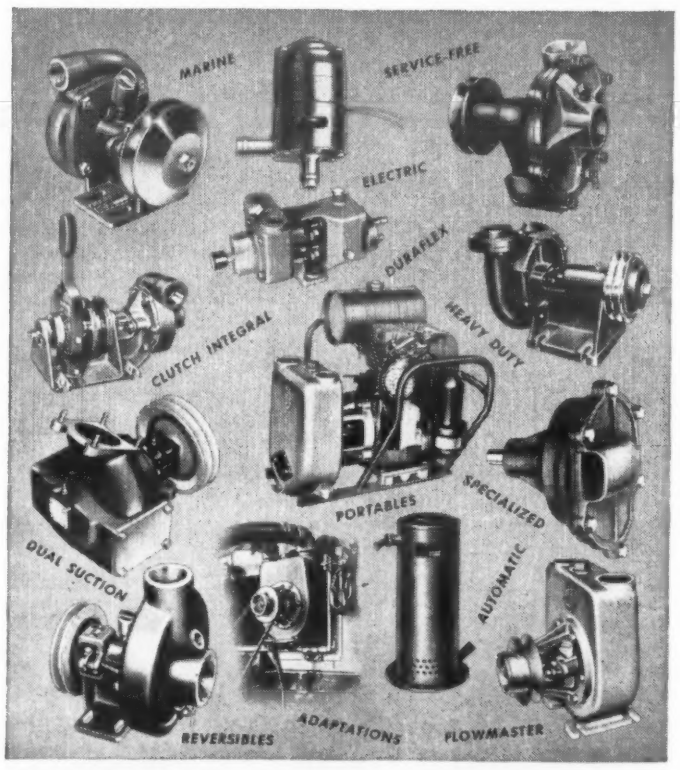
there's a Torrington Air Impeller

EFFECTIVE large scale use of DDT is best accomplished with an adaptation of the wartime "fog generator." Many of these generators include a Torrington blower wheel.

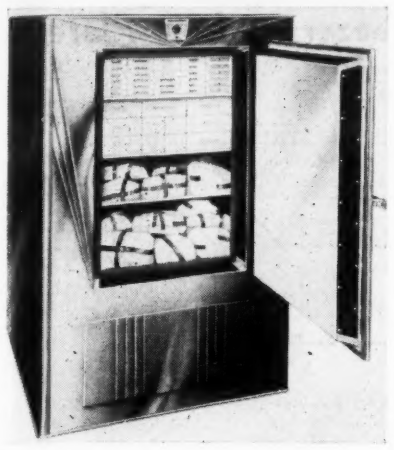
This is another of the many ways Torrington fans and blower wheels contribute to modern living. Forced air increases the efficiency, usefulness, or consumer comfort of countless products. Perhaps your product, too, can benefit by the application of this simple principle. Torrington's vast practical experience and extensive research facilities can be brought to bear on your particular product and problems. Write us at 16 Franklin Street for a free copy of the Air Impeller Specification Sheet.

THE TORRINGTON
MANUFACTURING COMPANY, TORRINGTON, CONN.

Air Impellers for Every Purpose



MARINE PRODUCTS CO.
ENGINEERED EQUIPMENT
Industrial *Marine*
6535 CHARLEVOIX AVE DETROIT 7, MICHIGAN



Arctic-Temp Freezer Has Failure Detection Light

LOS ANGELES—Equipped with a signal light to warn against failures, a 20-cu. ft. upright type stainless steel home freezer has been introduced by Arctic-Temp Mfg. Co. here.

The freezer employs direct conduction built-in copper coils for shelves with the exception of the adjustable lower shelf. The shelves can be scraped clean without defrosting, the company claims. Fingertip control is provided for the refrigeration system.

An "economizer" has been incorporated in the design to permit immediate flooding of the coils for quick cooling without damage to the compressor, it is said. Insulated with Dow Chemical Co.'s Styrofoam, the freezer measures 56 in. high, 46 in. wide, and 28 in. deep. Walls are 5 in. thick.

What's New

Combination Filter-Drier Built for Mobile Units

CHICAGO—Henry Valve Co. has announced the development of a combination strainer-filter-drier designed especially for mobile refrigeration installations. The new unit is built to withstand the vibration and abuse encountered in railroad and truck installations, for which standard commercial construction is not considered adequate.

Dehydrator is readily renewed with factory-sealed dehydrant cartridge. Cartridge has inlet dispersion tube which prevents channeling of refrigerant through drying agent, assures maximum utilization of dehydrant, and minimizes pressure drop. Filter is locked on dehydrant cartridge by snap-ring, and filter-drier assembly is securely held in place by compressed spring, preventing undesirable by-passing. Flange is distortion-proof and may be quickly removed for access to filter-drier elements.

Screen area is 136 sq. in., volume of dehydrant, 50 cu. in., shell diameter, 3⅛ in. It is recommended for use with systems up to and including 5 hp. Shipped with inlet and outlet ports sealed with soft-soldered caps to protect interior of unit from moisture and dirt. Drier cartridges are packed in moisture-proof containers when shipped separately.

Ionization Featured In Raytheon Precipitator

WALTHAM, Mass. — Employing the electrostatic method of precipitation, Raytheon Mfg. Co.'s new package Precipitator is claimed to be capable of removing 90% or more of all airborne dirt when installed into duct work systems of industrial air circulating and air conditioning systems.

Manufactured by Raytheon's Industrial Electronics Division, the Precipitator is now available also for use in stores, offices, theaters, hospitals, and auditoriums. The firm contemplates incorporation of the Precipitator in the heating and ventilating systems of homes, wherever practicable, and production of small, self-contained household units.

The device is described as consisting of three principal parts: the ionizer unit, the dust-collector cell, and the power supply, which provides 12,000 volts d.c. for the ionizer and 6,000 volts d.c. for the collector cell. Explaining operation of the Precipitator, Raytheon says:

"The ionizers are energized by the power pack with high-voltage direct current, creating a strong electrostatic field. As the air passes through this field, every particle of foreign matter, regardless of size or make-up, receives a positive charge.

"Within the area of the cell . . . are parallel plates, separated by an air gap, alternately charged with the high-voltage direct current. The positively charged dust particles are attracted to the negative plate and become firmly attached. . . ."

Some units will contain washing equipment, while others will require removal of the collector plates for cleaning, the firm says. The washing operation generally is not necessary oftener than once a month, it is announced.

According to Raytheon, the Precipitator can be used to remove smoke, dust, pollen, lint, oil mist, and other contaminating matter, including microscopic and sub-microscopic particles.

Describing the 1,200 c.f.m. unit, the concern claims that by recirculation, it will clean the air in a room approximately 35 by 35 by 12 ft. This model is supplied complete with a ¼-hp. motor blower, power pack, and collector cell enclosed in a cabinet 26 in. by 27 in. by 54 in.

Only one external connection to a 115-volt, 60-cycle source is necessary, it is stated. Power consumption, the company says, is only 50 watts per hour. With the installation of suitable duct work, it can be used to remove oil mist from high-speed cutting tools, it is asserted.

An 1,800 c.f.m. unit is available for larger installations.

U. S. Bureau of Standards tests show a comparative efficiency for electronic precipitation of from 87 to 90% as compared to 10% to 20% obtainable from the best mechanical filter, according to the company. Benefits claimed are lower maintenance costs, higher efficiency, greater comfort and safety.

Window-Type Cooler Fan

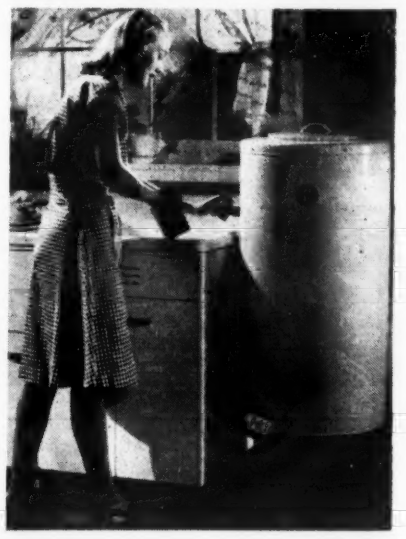
ST. LOUIS—Designed to provide rapid air circulation in small stores, offices, and dwellings, the new Emerson Electric window-type cooler fan is equipped with a capacitor motor and aluminum fan blades for quiet economical operation. The company claims it is capable of exhausting 3,500 c.f.m. and demands minimum maintenance.

In order to install the fan, two screw eyes should be placed in the window jamb, the fan set on the sill, the window raised, and the attached cord plugged into the nearest outlet.

Modern in design and finished in ivory enamel, the 20-inch cooler fan is enclosed in a cabinet, 24 in. wide, 9 in. deep, and 24 in. high, suitable for mounting in any window with a minimum opening of 20 in.

Rheem Designs Portable Electric Water Heater

NEW YORK CITY—Designed to remove the bugbear from the hot water problem on farms, at summer camps, shore homes, and rural medical stations where piped water is not available, Rheem Mfg. Co. here has designed a portable electric water heater that is filled by hand



and then connected to an ordinary electric outlet, giving an abundance of hot water that is discharged through a faucet on the side of the heater.

Having a capacity of 17 gallons of water and being thermostatically controlled, the Rheem portable water heater can also be hooked to a water pipe, thus being automatic at any time, the company claims.

The galvanized tank of the heater is deeply insulated and is encased in a steel jacket coated with baked white gloss. The heater is shipped ready for immediate use simply by filling with water and inserting electric plug.

Rheem Mfg. Co. is in production on its portable farm electric water heater at factories in Chicago and Los Angeles.

HUSSMANN
REFRIGERATION
GIVES
Balanced Performance
BECAUSE IT'S
HUSSMANN
ENGINEERED
ALL THE WAY!
HUSSMANN DESIGNED... Hussmann experts who know Refrigeration have had practical experience in actually designing every conceivable type of commercial and industrial installation.
HUSSMANN BUILT... Our huge plant, with every modern facility, is devoted exclusively to producing Refrigerators and Refrigerating Units.
HUSSMANN SERVICED... The nation-wide HUSSMANN Field Organization of competent men is ready and able to handle any job —anywhere—any time.
Designing—Manufacturing—Servicing—all under one synchronized direction. No wonder HUSSMANN Equipment gives balanced performance—better performance!
HUSSMANN
REFRIGERATION, INC.
HUSSMANN BUILDING • ST. LOUIS 6, MO.

Double Feature!
TODAY AND EVERY DAY
THAWZONE
PATENTED
The PIONEER FLUID DEHYDRANT
1. New or reconditioned units, before starting up, should have THAWZONE to destroy those tiny amounts of moisture that even careful workmanship cannot always avoid, and to prevent future trouble.
2. Systems now operating perfectly need THAWZONE now to prevent future moisture. It's economical insurance.
3. Units kicking up from moisture have been treated with THAWZONE by engineers for eight years. It's still good practice.
TRACE
REFRIGERANT LEAK DETECTOR
Add TRACE at any time to any refrigeration unit containing any refrigerant to:
1. Find present leaks.
2. Spot future leaks.
3. Locate the source (leaks) of moisture troubles.
TRACE has that vivid, stay-red color. It's manufactured by chemists with long experience in refrigeration, who understand the special and exacting requirements that must be met by any additive to a refrigeration system.
HIGHSIDE CHEMICALS CO.
195 VERONA AVE. NEWARK 4, N. J.

"Never mind the store—save my BUSH COOLER!"

Certified

BY A QUARTER CENTURY OF REFRIGERATION KNOW-HOW

Plan your automatic refrigeration installations for a triple advantage: Proved performance, low first cost, low maintenance cost. LIPMAN machines for dependable service in any field of commercial refrigeration are the result of more than a quarter century of manufacturing know-how. Let LIPMAN serve your needs profitably!

GENERAL REFRIGERATION DIVISION

How Should Plates Be Best Installed In Home Freezers & Locker Plants

Design Calculations for Lockers; Refrigerant Circuits for Home Units Outlined by Sawyer

TORONTO, Ont. — With special emphasis on home freezers and locker plants, application methods for cold plate type evaporators, including sample design problems, were discussed at the recent annual conference of the Interprovincial Refrigeration Service Engineers Society here by Al Sawyer of Dole Refrigerating Co.

There are three main general points to watch in laying out a locker plant refrigeration system, stated Mr. Sawyer:

1. Provide a clean piping layout.

2. Balance the heat load with the plate surface, and then balance the plate surface with refrigerating unit of correct size.

3. When servicing, check all details carefully for cause of trouble, with particular attention to head and suction pressures.

"In laying out a locker plant be sure interior dimensions are such that the aisles are of an economical width," he cautioned, adding that "there seems to be a trend toward installation of wider and shallower lockers. Lockers 24 in. wide and 15 in. high provide more accessibility."

Taking a typical locker plant design (to be equipped with 300 lockers), Mr. Sawyer outlined the procedure to be used in figuring the amount of plate surface to be used and the size of the condensing unit to employ. Designs should usually be figured on the basis of 100° F. outside air and 0° F. inside temperatures for the locker room.

The first step is to arrive at the outside surface area in square feet of the space to be refrigerated. Using the length, width, and height of the locker room as "A," "B," and "C," respectively, Mr. Sawyer suggested the following method of determining total area:

$$\left.\begin{matrix} A \times B \times 2 \\ A \times C \times 2 \\ B \times C \times 2 \end{matrix}\right\} = \text{surface area in sq. ft.}$$

To this total add two ciphers for the temperature difference, multiply by the K factor of the insulation used, and add 25% for the service load to find the 24 hour refrigeration load on the locker room, said Mr. Sawyer.

Since the system ordinarily should operate only 18 hours daily in hot weather, the above total figure should be divided by 18 to obtain the hourly load. In the sample locker plant design used by Mr. Sawyer, the load figured out to 13,000 B.t.u. per hour.

Dividing 13,000 by 32 (16° T.D. x 2K) gave 415, the square footage of plate surface which would be required for such a locker room. Plates which will come closest to that figure are then selected for the job, he said.

To balance the aforementioned plate surface with the condensing unit, figure on a 13,000 B.t.u. per hour load at -16° F. plate temperature. Mr. Sawyer suggests adding 2° or 3° to this, so that one would use the -20° capacity chart in selecting a condensing unit, which in this instance would be a 3-hp. water-cooled unit.

The freezing compartment for such a locker plant would be operated by a separate unit. For a 300-locker plant, figuring an average of the 3 lbs. of food frozen per day for each locker, a total of 900 lbs. of food will be frozen daily, estimates Mr. Sawyer.

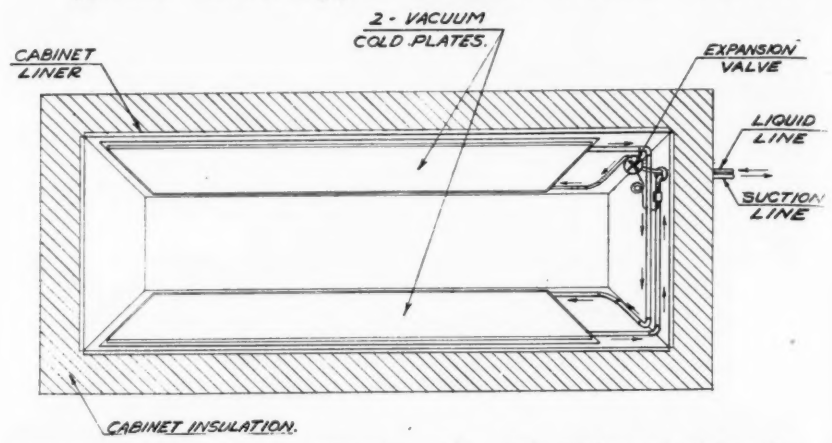
On the average 1 sq. ft. of plate surface will freeze 9 lbs. of food per day, so the total shelf surface required in the freezer would amount to 100 sq. ft., one side only.

Figuring 12,000 B.t.u. per 100 lbs. of food to be frozen, the daily load on the sharp freeze equipment in this locker plant would total 108,000 B.t.u. a day. The latter figure is divided by 18 to arrive at the hourly load, 6,000 B.t.u. per hour, which would indicate a 1½-hp. water-cooled condensing unit, according to Mr. Sawyer.

Although one of the chief advantages of using plates in a locker plant is the ease of defrosting by scraping, Mr. Sawyer also pointed out the desirability of installing a hot gas defrosting system. By manipulation of hand valves, hot gas from

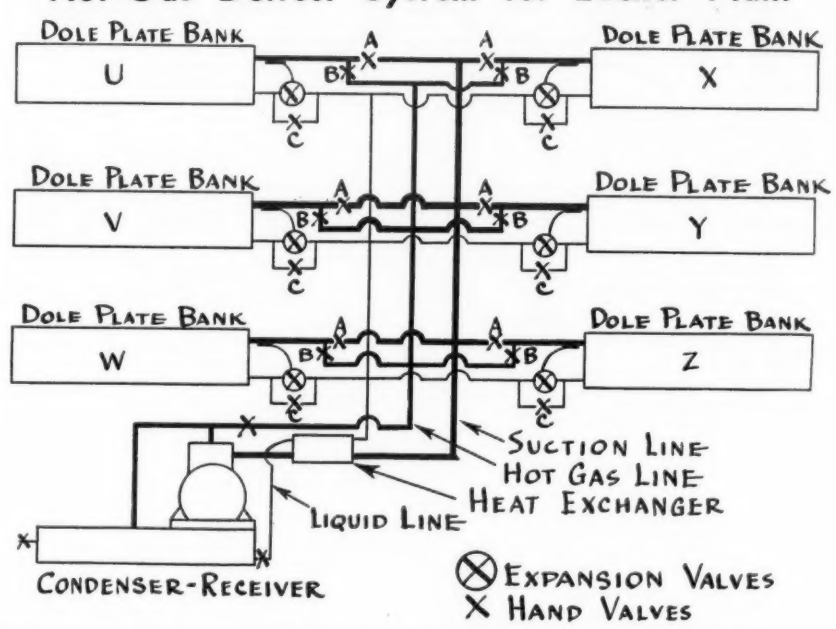
(Concluded on next page)

Typical Chest-Type Freezer with 2 Plates



Recommended location of expansion valve and refrigerant piping for a typical chest type home freezer employing two plates is suggested here.

Hot-Gas Defrost System for Locker Plant



Diagrammed above is a hookup for hot-gas defrosting of plates in a locker plant. During normal operation valves B and C are closed and valves A are open. To defrost plate bank Y close valve A at plate bank Y and open valves B and C at plate bank Y. The hot compressed gas leaving the compressor now flows through valve B to plate bank Y, melting frost on the plate bank and then condensing. The resulting liquid refrigerant flows from plate bank Y through valve C to the liquid line to feed the expansion valves on the remaining banks. After frost has been completely removed from bank Y, valves B and C at that bank are closed and valve A opened slowly to prevent liquid slugs in the return line. Plate bank Y is now back in normal operation and other banks may be defrosted in the same manner.

REVERE DRYSEAL TUBE

EVEN a minute quantity of moisture can cause an expansion valve to "stick"—can make a valve lose control—can freeze in the flow area of a valve and partially or wholly block the flow.

That is why Revere Dryseal Copper Tube comes to you dehydrated and sealed at both ends—so that you can keep moisture *out* of your installations.

Made for refrigeration, air conditioning, heat control, bottled gas, and other exacting services, Revere Dryseal tube is dead soft for easy handling, and comes in sizes from ⅛" to ¾" O.D., with .035" wall. It is standard in 50-foot coils. Sold by Revere Distributors in all parts of the country.

REVERE

COPPER AND BRASS INCORPORATED

Founded by Paul Revere in 1801

230 Park Avenue, New York 17, New York

Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.; New Bedford, Mass.; Rome, N.Y.—Sales Offices in Principal Cities, Distributors Everywhere

Listen to *Exploring the Unknown* on the Mutual Network every Sunday evening, 9 to 9:30 p. m., EDST.

We have built, are building, and shall continue to build all types of custom-made coils for air conditioning and refrigeration equipment.

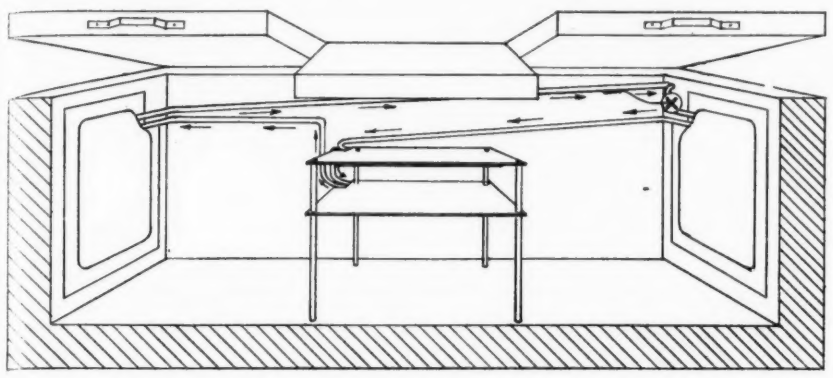
It will cost you nothing to ask us for a quotation on your requirements.

Swan Engineering Company, Inc.

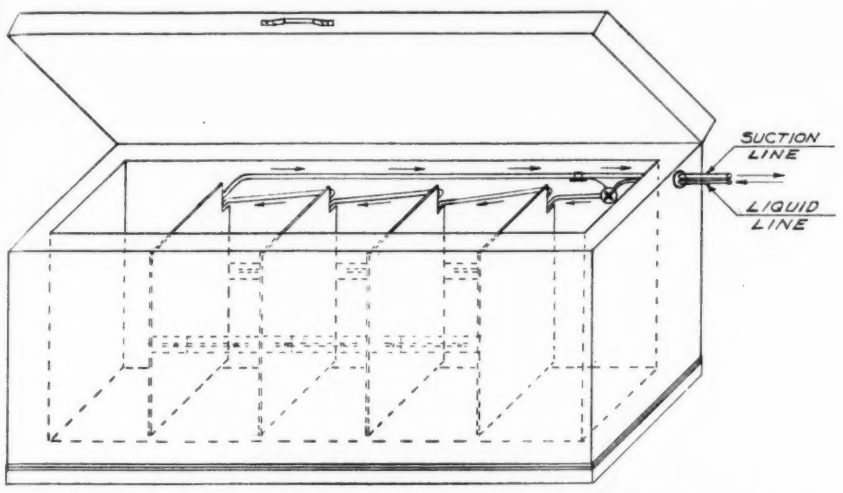
18-58 Nelson Street

Bloomfield, N. J.

Variations of Plate Arrangements



In this chest-type home freezer a combination of vertical and horizontal plates is employed. The horizontal plates located in the center of the cabinet are intended for direct contact freezing of foods.



Four vertical plate type evaporators are here installed to make five compartments in a chest freezer.

Installing Plates--

(Concluded from preceding page)

the high side of the condensing unit can be directed through the plates, quickly defrosting them, he pointed out.

In discussing the application of cold plates to home freezers, Mr. Sawyer indicated that the present trend appears to be toward upright type units, especially if the lady of the house has her choice in the matter.

The typical chest type home freezer uses two cold plates, one along each side, he said. The plates are usually placed flush with the sides. Air circulation would be improved if the plates were moved out an inch from the sides, but this would cut down the amount of storage space, he pointed out.

Two plates will probably suffice for the average unit fitted with 4 in. of insulation, but if the insulation is less, it will be advisable to install plates at the ends as well, he suggested. If much fast freezing is to be done, one or two horizontal shelves should be placed along one side.

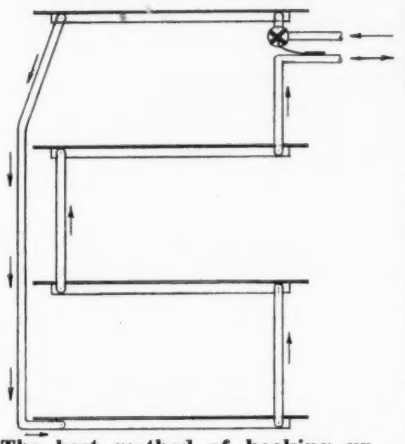
In such a freezer the refrigerant is best introduced at the bottom of one plate to flow out the top over to the second plate.

Mr. Sawyer also illustrated a type of freezer constructed with four or five vertical plates, and suggested the combination of vertical and horizontal plates in a chest type unit. Vertical plates could be mounted at either end with doors opening to the cabinet below. In the center, beneath a solid section of the cabinet, one or two horizontal plates could be mounted for freezing.

With vertical type freezers using plate evaporator shelves there is something of a problem in deciding how to hook up the plates, according to Mr. Sawyer.

"The top plate takes a beating from the heat when the freezer door is opened, so it's probably better to install the expansion valve at the top plate. Although the refrigerant could flow from top to bottom or vice versa, the best way would be to have the refrigerant enter at the top plate, drop from there to the bottom plate, and thence work up through the intervening plates," he declared.

Vertical Freezer



The best method of hooking up plate shelves in a vertical home freezer, believes Al Sawyer of Dole Refrigerating Co., is to bring the liquid line into the top plate, and then drop the suction line to the bottom plate and work upwards, because "the top plate takes a beating when the freezer door is opened."

Milk Producers' Freezer Ceiling Set at $530

ST. LOUIS—Maximum retail price for Milk Producers Equipment Co.'s 15 ft. frozen food cabinet equipped with a ⅓-hp. condensing unit is $530 according to OPA Order 414, MPR 591.

On sales to distributors and dealers, the OPA ceilings are $265 and $318, respectively.

These prices, said OPA, are subject to the usual discounts and allowances.

75,000 Lb. Daily Freeze Seen for Alabama Plant

DOTHAN, Ala. — The first commercial quick freeze plant in Baldwin County, Ala., Gulf Frozen Foods, subsidiary of the Gulf Ice & Cold Storage Co., is scheduled to be in full operation in Foley, Ala., within 60 days. The 86 by 40 ft. brick and cork insulated building to cost $100,000, is near completion.

Freezing capacity at first will be 30,000 pounds of shrimp a day, expected to increase to 75,000 pounds daily by autumn. In addition, the plant will have cold storage capacity of 300,000 pounds of various products.

William Carmichael, Jr., who will be manager, stated that the plant planned to be ready to freeze strawberries from the Louisiana growers in April, probably freezing them in 30-pound tins.

The Foley area produces an early green corn crop, and the operators also expect to extend their activities into nearby Florida for blueberries and other products.

The Gulf Ice & Cold Storage Co., owner of the new quick-freezing plant is headed by Hugh Morrow, Jr., of Birmingham, president, and E. B. Sparkman, Evergreen, Ala., vice president.

Cornell-Dubilier Buys Building for Capacitors

WORCESTER, Mass. — Purchase here of an eight-story former wartime condenser plant is announced by the Cornell-Dubilier Electric Corp. The firm intends later to buy all the machinery and equipment, most of which belongs to the Navy.

The factory building where tiny condensers for proximity fuses were manufactured during the war will be converted to the peacetime production of capacitors, it was indicated. Many new applications for capacitors have reportedly been found during the past five years, especially in the field of electronics.

KRACK
ENGINEERED
UNIT COOLERS
FIN COILS
AIR CONDITIONING
Refrigeration Appliances, Inc.
923 W. Lake St., Chicago 7, Ill.

for
SULFUR DIOXIDE
and
METHYL CHLORIDE
See Your
ANSUL WHOLESALER
These Ansul Refrigerants have a long record for DRYNESS, PURITY and DEPENDABILITY. You will like Ansul's friendly service.
*REG. U.S. PAT. OFF.
ANSUL CHEMICAL COMPANY
REFRIGERATION DIVISION
MARINETTE, WISCONSIN
Distributors for Kinetic's "Freon-11," "Freon-12," "Freon-21," "Freon-22" and "Freon-113"

WHY EXPERIMENT?
ZEROCEL WILL DO IT BETTER!
INCH for inch, Zerocel is one of the most EFFICIENT insulators for almost every kind of low-temperature insulation. Its properties are perfect for locker plants, home and farm freezer cabinets, domestic and commercial refrigerators and in short, for practically all types of low temperature construction. It has a thermal conductivity (or "K" factor) of only 0.24 Btu. at 60° F. mean temperature.
CABINETS
STORAGE
Zerocel is so ECONOMICAL you can install it much thicker than ordinary insulations for the same or less money. Therefore, you can reduce your refrigeration load (and also the size of your compressor) to the lowest possible minimum. This means savings all around.
LOCKERS
HOME FREEZER
Zerocel is one of the famous GOLD BOND products, well-known all over the world. That's why your appliances and installations will be easier to sell if they bear Gold Bond Zerocel stickers and job signs. They're FREE on request.
ZEROCEL PROPERTIES:
• Completely fireproof
• Will not absorb moisture or odors
• Will not settle
• Immune to fungus, rot decay, and vermin
• Light in weight
• Easy to cut with knife
Zerocel is manufactured to U. S. Dept. of Commerce Standard CS 105-43. Samples and literature on request.
BUILD BETTER WITH GOLD BOND ZEROCEL INSULATION
INDUSTRIAL DIVISION, NATIONAL GYPSUM COMPANY
GENERAL OFFICES, BUFFALO 2, NEW YORK
Branch Offices: New York City, Boston, Philadelphia, Washington, D. C. Chicago, St. Louis, Los Angeles, Dallas, Cincinnati, Luckey, Ohio.

JORDON
AMERICA'S MODERN COMMERCIAL LINE!
Refrigerators
BEST IN OPERATION • BEST IN VALUE • BEST FOR YOU
SELF OR CLERK SERVICE
3 OF AMERICA'S MOST POPULAR REFRIGERATORS
← MODEL 16 S. C.
FROZEN FOOD DISPLAY CASE
Offering maximum capacities for large and small markets. Self-contained, ready for plug-in. At a popular price.
→
Versatile self-defrosting R-42 Reach-in.
Style JFC Normal Temp.
Style ALC All Low Temp.
Style DT Dual Temp.
REACH-IN MODEL R-42
HOME & FARM FREEZER
← KING KOLD
Self-contained, heavily insulated for quick low temperature. Equipped with temperature control.
DISPLAY CASES
SELF-SERVICE DAIRY-VEGETABLE CASES
WALK-IN COOLERS
REACH-IN REFRIGERATORS
SELF-SERVICE CANDY CASE
INQUIRE NOW FOR COMPLETE DETAILS ON AMERICA'S FINEST COMPLETE LINE OF COMMERCIAL REFRIGERATION EQUIPMENT
FROZEN FOOD DISPLAY CASE
BEVERAGE COOLERS
DIRECT DRAW BEER COOLER
SALES DIVISION OF
JORDON REFRIGERATOR COMPANY
235 No. BROAD ST., PHILA. 7, PA.
Phone RITtenhouse 6359
FACTORY—PHILADELPHIA, PA.

Proven by Performance

IDEAL
Speed-Freeze
PRODUCTS

FROZEN FOOD CABINETS • BEVERAGE COOLERS

IDEAL COOLER CORP., 2953 EASTON, ST. LOUIS 6, MO.

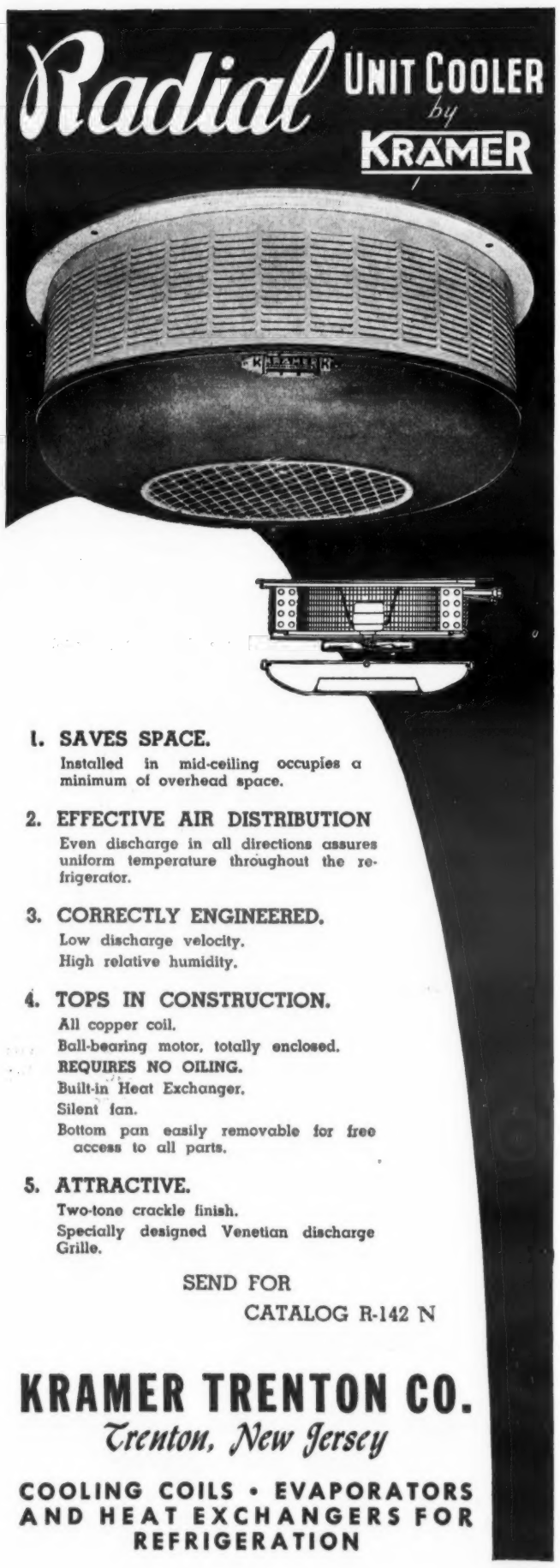
Ask Your Jobber for
HASCOBILT *Parts*

SUCTION *and* DISCHARGE
VALVE, DISC, REEDS *and* SPRINGS
for Conventional and Hermetic Type Compressors

HASCO, INC.
GREENSBORO, N. C.

If your jobber can't supply you, send for illustrated catalog and price list.

Radial UNIT COOLER *by* KRAMER



1. SAVES SPACE.
Installed in mid-ceiling occupies a minimum of overhead space.

2. EFFECTIVE AIR DISTRIBUTION
Even discharge in all directions assures uniform temperature throughout the refrigerator.

3. CORRECTLY ENGINEERED.
Low discharge velocity.
High relative humidity.

4. TOPS IN CONSTRUCTION.
All copper coil.
Ball-bearing motor, totally enclosed.
REQUIRES NO OILING.
Built-in Heat Exchanger.
Silent fan.
Bottom pan easily removable for free access to all parts.

5. ATTRACTIVE.
Two-tone crackle finish.
Specially designed Venetian discharge Grille.

SEND FOR
CATALOG R-142 N

KRAMER TRENTON CO.
Trenton, New Jersey

COOLING COILS • EVAPORATORS
AND HEAT EXCHANGERS FOR
REFRIGERATION

Refrigeration Problems
And Their Solution

By P. B. Reed

For Service and Installation Engineers

Manager, Refrigeration and Air Conditioning Division, Perfex Corp.

Service Chart For System Using Thermostatic Expansion Valve & Pressure Control

Symptoms	Possible Causes	Remedy
CONDENSING UNIT SHORT-CYCLES.	System low on charge.	Find and repair leak; recharge.
	Partial stoppage in liquid line valves, fittings, dehydrator, or strainer, tubing kinked.	Trace source of stoppage and repair or replace part.
Evaporator frosted but warmer than normal. Refrigerator not cold enough. Suction line warm. Suction and discharge pressure low.	Expansion not feeding enough refrigerant to keep evaporator fully active because of:	
	Dirt, gum, or wax in valve.	Clean or replace valve; install strainer or change oil and refrigerant.
	Moisture in the system. Ice in the valve.	Clean or replace valve; install dehydrator and remove moisture.
	Ice in body bellows, holding needle almost closed.	Wash out bellows with alcohol, and put in teaspoonful of glycerin.
	Valve adjusted for too much superheat.	Readjust to low superheat to feed more refrigerant.
	Valve defective due to power element lost charge, loading spring broken, parts sticking, etc.	Replace power element or entire valve as required.
	Valve in too cold location; take control from bulb.	Relocate valve body to warmer position; remove insulation around body.
	Excessive pressure drop across evaporator.	Use equalizer connection on valve or split evaporator into parallel circuits.
	Excessive pressure drop in liquid line because off:	
	Tubing too small or too long.	Replace with larger tube or run additional liquid line.
	Evaporator too far above condensing unit.	Relocate unit or increase discharge pressure (reduce air or water to condenser).
	Fan motor on evaporator stopped or running too slowly; fan slipping on shaft.	Trace cause and make repair. Check voltage.
	Finned evaporator iced up.	Defrost the evaporator and reset control to higher cut-in to obtain defrost cycle.
	Condensing unit and evaporator capacities not balanced; unit too large.	Slow down compressor by reducing motor pulley or other methods. Lower cut-out setting or change to temperature control.

(To Be Continued)

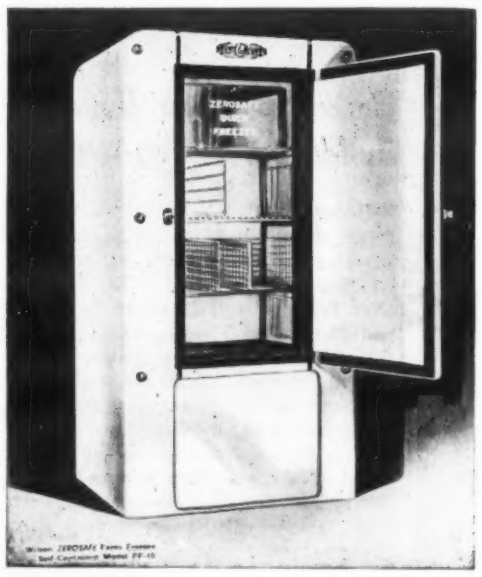
Ranco Controls

EASY TO INSTALL
INSTRUMENTS OF ACCURACY
RUGGED CONSTRUCTION

Simplicity of design makes Ranco controls quick and easy to install—saves the service man time.
Ranco controls are accurate because they are precision inspected at each step of fabrication and assembly.
Built of finest materials selected for beauty and durability, these controls are rugged beyond the most severe demands.
For profits, install Ranco controls. See your jobber or write direct.

Type O Commercial Control

Ranco Inc. COLUMBUS 1, OHIO



Wilson ZEROSAFE *Reach-In Farm Freezer Is Years Ahead...*

SINCE 1939 Enthusiastic public acceptance and constant daily use have proved Wilson ZEROSAFE the greatest reach-in farm freezer in America . . . These years of trouble-free ZEROSAFE service are your guarantee that "Freezers by Wilson" will continue to revolutionize American menus by making frozen fresh foods a part of daily living. THE NEW ZEROSAFE IS NOW GREATER THAN EVER . . . There is a ZEROSAFE size for every need: 15 cu. ft. (illus.) and 25 cu. ft. Self-Contained Models; and Sectional Models from 22 cu. ft. up to 120 cu. ft.

For franchise information, address Desk 11:

WILSON REFRIGERATION, INC.
DIVISION OF WILSON CABINET CO.
SMYRNA - DELAWARE

Billion-Dollar Market For Oil Heating For 5 Years Seen At Institute Meeting

Pictured at the opening day ceremonies of the first National Oil Heat Exposition and Convention held in Philadelphia recently are: J. W. Owens, W. A. Kemp, A. T. Atwill, and W. A. Matheson, president of the Oil-Heat Institute of America, who is shown accepting the welcome of the city from A. L. Hallstrom, president of the Chamber of Commerce. On Mr. Hallstrom's left are: C. E. Lewis, S. A. Loeb, Alexiz Doster, and C. R. Jonswold.

* * *

PHILADELPHIA—During the five years ending with 1950, more than a billion dollars worth of oil heating equipment will be sold in America, W. A. Matheson, president of the Oil-Heat Institute, declared at the Institute's twenty-third annual convention held here the last week in April.

Facts and figures were presented to the 3,000 delegates of the oil heating industry showing that theirs would soon be a half billion dollar a year industry and that there "was plenty of oil to burn" without fear of an oil shortage.

Mr. Matheson declared that there are more than 2.5 million oil heating installations in American homes today, better than a two to one advantage over either stokers or gas burners.

Indications—based on the expected level of prosperity for this year—are that the demand for oil heating installations this year will be close to 450,000.

By 1950, industry estimates point to a total of 4½ million motor driven or power burner oil heating installations in American homes, he said. In addition the space heating industry estimates a 750,000 unit increase in this first postwar year. Sales are expected to continue at this rate or better for five years.

A. E. Hess, managing director of the Institute, stated that "because of shortages in manpower, materials, and components, manufacturing at the start of 1946 cannot meet the demands placed on it. The situation will begin to ease, it is expected, in a few months. Eventually the industry could absorb not less than 55,000 men for the production and shipment of equipment required and another 10,000 men will be needed for installation and maintenance of this new equipment.

To quell any doubts as to the abundance of oil available to the industry, Mr. Matheson referred to figures from the American Petroleum Institute Committee on Petroleum Reserves reporting estimated "proved reserves" on Dec. 31, 1944, of nearly 20½ billion barrels—the largest volume in the country's history. This volume was two billion barrels greater than at the end of 1939, when military demand first became a factor, he said.

Proved reserves are defined as the amount of oil estimated to come from the known fields through ordinary methods of production. Additional oil may be produced from the same fields in the future by secondary recovery methods, he declared.

In the five years, 1940-1944 inclusive, production totaled 7,323,000,000 barrels. Discoveries of proved reserves totaled 9,293,000,000 barrels.

Mr. Matheson quoted geologist Wallace E. Pratt as declaring: "The experience of the oil industry throughout 85 years of oil finding in the United States makes it reasonable to believe there remains undiscovered at least as much oil as we have already discovered in the past."

Mr. Matheson defined the units of oil heating equipment as:

Conversion Burner—one used to convert a manually controlled heating plant (either a furnace or boiler) to an automatic oil-burning system.

Boiler-Burner Unit—a complete heating plant with oil burner and boiler enclosed in an attractive cabinet. A built-in coil supplies year around hot water automatically for laundry, kitchen, and bath.

Winter Air Conditioner—a complete heating plant, modern warm air heating with moving warm air automatically controlled. Air filtering and humidification are part of the system.

Space Heater—an oil-burning warm air unit for direct heating of one room and adjacent space. No duct work is required.

Floor Furnace—a small complete, central heating plant which requires no duct work. Normally it is suspended from the first floor of the house and warm air is circulated to rooms through a floor grill.

Oil Burning Water Heaters—complete, automatically controlled, self-contained units which furnish an abundant, economical supply of hot water the year around. These water heaters are available in both vaporizing burner and motor driven burner types.

To demonstrate its claim of the economy of oil heat as compared to other fuels, the Oil-Heat Institute exhibited a chart listing what the price of coal, natural gas, or manufactured gas should be for a given price for oil in order to get the same amount of heat. (See Table 2.)

The Institute claims that 10 gallons of fuel oil contains 1,430,000 B.t.u. To get the same potential heat, 120 tons of coal, 1,430 cu. ft. of natural gas, or 2,860 cu. ft. of manufactured gas (since manufactured gas contains only about half the heat content of natural gas) would be required, it was claimed.

In addition, wartime research has led to the creation of new fuel oils which will give more heat per gallon of oil used, it was said.

Table 1—Conversion Oil Burner and Unit Sales

Sales	Retail Value	Factory Value	Year	No. in Use (End of Year)
126,400	.....	.....	1930	648,500
104,000	.....	.....	1931	747,300
89,200	.....	.....	1932	831,120
88,600	.....	.....	1933	914,280
108,290	.....	.....	1934	1,112,870
150,510	$ 55,342,500	.....	1935	1,152,125
220,075	74,054,700	.....	1936	1,340,675
210,740	69,265,100	$22,238,200	1937	1,530,545
179,360	54,583,900	18,292,900	1938	1,667,745
236,140	66,520,400	23,352,200	1939	1,862,330
302,210	89,548,800	32,273,600	1940	2,135,125
333,250	113,546,400	41,931,800	1941	2,402,060
99,514	29,871,600	14,067,900	1942	2,386,290
33,445	5,283,300	5,431,000	1943	2,375,455
49,915	17,988,300	7,652,000	1944	2,392,265
145,596	49,245,200	17,845,400	1945	2,525,655

Table 2—How To Find Your Least Expensive Fuel

If the per gallon cost of Oil is	.06	.08	.10	.12	.14
Then the per ton cost of Coal should be.....	$7.00	$9.00	$11.50	$13.40	$15.50
And the 1,000 cu. ft. cost of Natural Gas should be	.42	.56	.70	.85	.98
And the 1,000 cu. ft. cost of Manufactured Gas should be	.21	.28	.35	.43	.49

(**Note:** This table and the figures preceding it are based upon oil having 143,000 B.t.u. per gallon—coal having 12,000 B.t.u. per pound—natural gas having 1,000B.t.u. per cu. ft.—manufactured gas having 500 B.t.u. per cu. ft.; and upon furnace efficiencies of 75% for oil, 50% for coal, and 75% for gas. Comparative B.t.u. figures computed from the Handbook of Oil Burning by the American Oil Burner Association; costs based on prewar prices.)

March Shipments Of Appliances Showed Increase

(Concluded from Page 1, Column 3)

over January, but falls short of the 348,000 mark registered in December. February shipments were equivalent to 83% of the 1940-1941 rate.

An explanation of how CPA is determining its figures on industry shipments was issued last week by Winston A. Bryant, chief of the CPA Consumers Durable Goods Branch, following criticism from some branches of the industry that the estimates were inaccurate.

Shipments only, not production, are employed by CPA to determine the flow of goods from factory to consumer, he declared, pointing out further that comparisons with prewar production are made on the basis of average monthly shipments in 1940-1941 rather than actual shipments month by month and in the prewar period.

Prewar production figures of many appliances reflected seasonal variations in sales, whereas with today's shortages of consumers goods, no such seasonal fluctuations are likely to be encountered, contends Mr. Bryant.

"Our reports are designed to show what the public is actually getting and the best way to reflect this is to report shipments," he said. "Such figures are not only much more accessible, but give the most accurate picture to business."

AUDELS REFRIGERATION and AIR CONDITIONING GUIDE

JUST OUT! 4 Books in One!

Covering: Basic Principles, Servicing, Operation, Repair of
1. Household Refrigeration
2. Special Refrigeration Units
3 Commercial & Industrial Refrigeration
4. Air Conditioning Systems

A gold mine of essential important facts for ENGINEERS, USERS AND SERVICEMEN. Here you have at your fingers' ends a Complete Library in ONE VOLUME, the necessary data you have been looking for on: MODERN UNITS, SYSTEMS AND MACHINES, REFRIGERANTS, Including Freon, Quick Freezing, Lockers, Water Coolers & Air Conditioning Systems.

ANSWERS YOUR QUESTIONS.
1280 Pages, 46 Chapters all Fully Illustrated & Indexed for Ready Reference
$4 COMPLETE • PAY ONLY $1 A MONTH

--- CUT HERE ---

MAIL ORDER

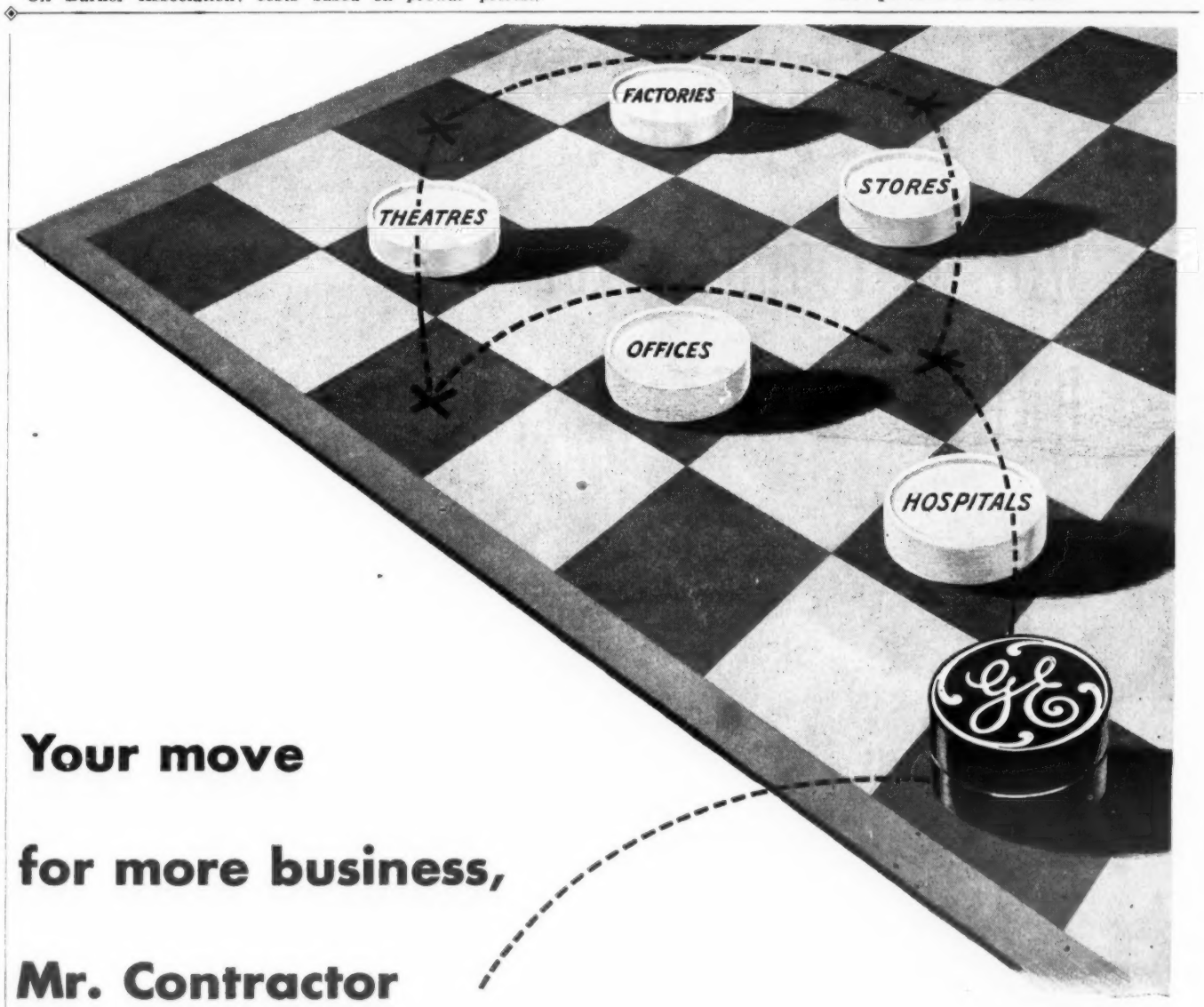
Please send me postpaid, or FREE EXAMINATION books marked (x) below. If I decide to keep them I agree to mail $1 in 7 Days on each book ordered and further mail $1 monthly on each book until I have paid price.

☐ REFRIGERATION & Air Conditioning, 1280 Pgs. $4.
☐ POWER PLANT ENGINEERS Guide, 1500 Pages. 4.
☐ PUMPS, Hydraulics & Air Compressors, 1658 Pgs. 4.
☐ WELDERS GUIDE, 400 Pages . . . . . 1.
☐ BLUE PRINT READING, 416 Pages . . . . . 2.
☐ SHEET METAL WORKERS Handy Book, 388 Pgs. 1.
☐ SHEET METAL PATTERN LAYOUTS, 1100 Pgs. 4.
☐ AIRCRAFT WORKER, 240 Pages 1
☐ MATHEMATICS & CALCULATIONS, 700 Pgs. . 2.
☐ MACHINISTS Handy Book, 1600 Pages . . . 4.
☐ MECHANICAL Dictionary, 968 Pages . . . . 4.
☐ AUTOMOBILE GUIDE, 1540 Pages . . . . . 4.
☐ DIESEL ENGINE MANUAL, 400 Pages . . . 2.
☐ MARINE ENGINEERS Handy Book, 1280 Pages 4.
☐ SHIPFITTERS Handy Book, 272 Pages . . . 1
☐ MECHANICAL DRAWING COURSE, 160 Pages 1.
☐ MECHANICAL DRAWING & DESIGN, 480 Pgs. 2.
☐ MILLWRIGHTS & Mechanics Guide, 1200 Pgs. 4.
☐ CARPENTERS & Builders Guides (4 vols.) . . 6.
☐ PLUMBERS & Steamfitters Guides (4 vols.) . 6.
☐ MASONS & Builders Guides (4 vols.) . . . . 6.
☐ MASTER PAINTER & DECORATOR, 320 Pgs. 2.
☐ GARDENERS & GROWERS GUIDES (4 vols.) 6.
☐ ENGINEERS and Mechanics Guides Nos. 1, 2, 3, 4, 5, 6, 7 and 8 complete . . . 12.
☐ Answers on Practical ENGINEERING . . . . 1.
☐ ENGINEERS & FIREMANS EXAMINATIONS . 1.
☐ ELECTRICIANS EXAMINATIONS, 250 Pages . 1.
☐ WIRING DIAGRAMS, 210 Pages . . . . . 1.
☐ ELECTRICAL DICTIONARY, 9000 Terms . . 2.
☐ ELECTRICAL POWER CALCULATIONS, 425 Pgs. 2.
☐ HANDY BOOK OF ELECTRICITY, 1340 Pages 4.
☐ RADIOMANS GUIDE, 914 Pages . . . . . 4.
☐ ELECTRONIC DEVICES, 216 Pages . . . . . 2.
☐ ELECTRIC LIBRARY, 12 vol., 7000 Pgs., $1.50 vol.

AUDEL, Publishers, 49 W. 23 St., NEW YORK 10, N. Y.

ASK TO SEE THEM!
Get This Information for Yourself. Mail coupon today. No obligation unless O. K.

Name _____
Address _____
Occupation _____
Employed by _____ R-12



Your move

for more business,

Mr. Contractor

TAKE A LOOK AT THE FIGURES. Experts predict that at least *a billion dollars* will be spent on air conditioning in the next five years. 55% of that amount will come from commercial establishments. 30% will come from industrial applications. Obviously there is a wonderful future for contractors providing the right kind of air conditioning.

TAKE A LOOK AT THE PROSPECTS. General Electric is reaching commercial and industrial establishments in your community through advertising in The Saturday Evening Post, Collier's, Time, Business Week and a long list of business papers. These prospects are learning that G. E. gives them *BETTER* Air Conditioning. They're learning, too, that G-E Air Conditioning is worth waiting for.

Put this powerhouse G-E campaign to work for you by contacting your prospects now . . . letting them know you'll be ready to serve them the minute sufficient G-E equipment is available.

General Electric Co., Air Conditioning Dept., Section 6705, Bloomfield, New Jersey.

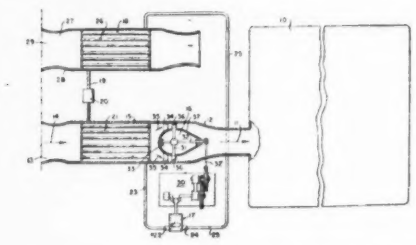
GENERAL ELECTRIC

Complete Air Conditioning

PATENTS

Week of April 16

2,398,655. AIR CONDITIONER FOR AIRCRAFT CABINS. Waldemar F. Mayer, Los Angeles, Calif., assignor to The Garrett Corp., Airesearch Mfg. Co. Division, Los Angeles, Calif., a corporation of California. Application May 15, 1944, Serial No. 535,617. 10 Claims. (Cl. 62—129.)



1. In means associated with an aircraft cabin for cooling replenishment air, the combination of: first and second air ducts through which flows of air are conducted when the aircraft is in motion; means connecting the first of said ducts to said cabin; an air driven motor in one of said ducts arranged to be driven by the flow of air therethrough; and a refrigeration unit driven by said motor, said unit having compressor means for compressing a refrigerant, air cooled means in said second duct for cooling the compressed refrigerant, and an expansion chamber for the cooled refrigerant associated with said first duct so as to absorb heat from the air which passes through said first duct.

AVAILABLE FOR LICENSING OR SALE

Pat. 2,312,312. EVAPORATOR. Patented Mar. 2, 1943. Reg. No. 2,594.

Pat. 2,312,313. EVAPORATOR. Patented Mar. 2, 1943. Reg. No. 2,595.

The two patents listed above relate to evaporators designed to operate at subatmospheric pressures in which the heat exchangers are enclosed within a single cylindrical shell and the tubes carrying the heat delivering fluid are submerged in a liquid refrigerant of low pressure range ("Freon-11," etc.,) held within an open trough mounted within the shell. The space between the trough and the shell provides an elongated offtake so that a uniform pressure is maintained over the vapor disengaging surface of the trough. The absence of localized low pressure areas prevents surging and spouting. Pat. No. 2,312,313 differs chiefly in the presence of a secondary heat exchanger in the offtake. (Owner) Walter E. Beline, 103 Beach Ave., Larchmont, N. Y. Group 35—51.

Robbins-Greenwood To Represent Highside

NEWARK, N. J.—The Robbins-Greenwood Co. of Houston, Tex., has been appointed sales representative for Highside Chemicals, covering the states of Texas, Louisiana, and Oklahoma, announces Laurence V. Gardner, general manager. Highside is manufacturer of "Thawzone" and "Trace."

General Controls Has New Canadian Agency

CALGARY, Alberta, Canada—The Wells H. Morton & Co., Ltd., here has been appointed distributor of the General Controls Co.'s complete line of automatic pressure, temperature, and flow controls. Morton & Co. will cover the provinces of Alberta and Saskatchewan, according to a recent announcement by Wells H. Morton & Co., Ltd.

Located at 224 11th Ave. W. here, the Wells H. Morton Co. is known in Canada for its service, sales, and engineering facilities.

Takes Post In East

NORMAN BEALS

* * *

Henry Valve Appoints Beals Field Engineer

CHICAGO—Henry Valve Co. has announced the appointment of Norman Beals as field engineer.

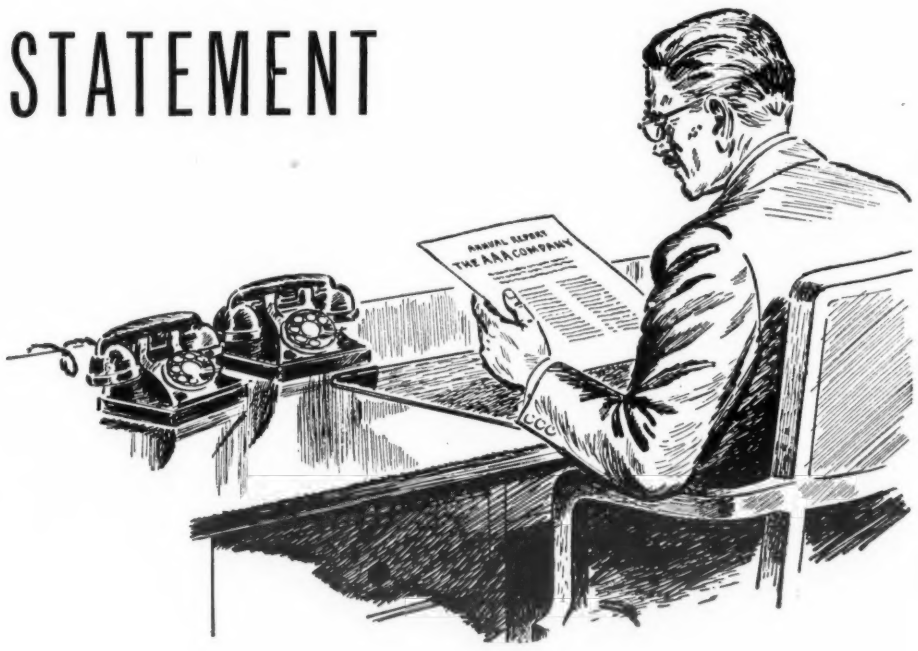
Prior to joining the Henry organization he was a design engineer for a St. Louis manufacturer, later becoming a field tooling engineer and chief industrial designer for concerns in Dayton and Brooklyn.

Mr. Beals works with Henry's eastern manager, C. W. Hudzietz, covering eastern states and New England.

THE PROOF

will be found in your

PROFIT STATEMENT



CONTRACT manufacturing is sound. Its tangible benefits are reflected right there in your profit statement where you AND YOUR STOCKHOLDERS may see them.

That is one of the reasons why an increasing number of the country's leading firms have called on Hupp to help them produce for today's expanded demand. By delivering, through contract manufacturing, increased quantities to market NOW, they are assured of their full share of present profitable markets. By serving more customers NOW their products will gain wider acceptance for the years after this wave of buying has been spent and other conditions prevail.

From more than thirty years' experience as one of America's leading motor car manufacturers, Hupp is making available the benefits of that industry's high production methods. In its Detroit Hupp Machining Division or in its Cleveland Globe Stamping Division, Hupp produces everything from precision machined parts to specification stampings and complete assemblies. Working with several industries has taught Hupp the know-how of gearing its organization to that of the buyer.

Plan now for an improved profit statement by calling HUPP —AN EXPERIENCED CONTRACT MANUFACTURER.

HUPP
MOTOR CAR
CORPORATION
★
HUPP MACHINING DIVISION • DETROIT
GLOBE STAMPING DIVISION • CLEVELAND

ONE IN A SERIES OF ADVERTISEMENTS PRESENTING THE HUPP PLAN FOR INDUSTRIAL STABILITY

CLASSIFIED ADVERTISING

RATES for "Positions Wanted" $2.50 per insertion. Limit 50 words.

RATES for all other classifications $5.00 per insertion. Limit 50 words.

Advertisements set in usual classified style. Box addresses count as five words, other addresses by actual word count.

PAYMENT in advance is required for advertising in this column.

POSITIONS WANTED

SALES ENGINEER, college graduate, 41 years old, Christian. Fifteen years experience in Air Conditioning, Commercial Refrigeration, Domestic Refrigerators, and all types of appliances. Capable of installing and servicing. Desires position in or around Los Angeles. Traveled and worked in 25 Foreign countries for one of largest firms in America. Can furnish good references. Box 1974, Air Conditioning & Refrigeration News.

TWELVE YEARS experience with nationally known manufacturers. Member A.S.R.E. Experience through actual installation and servicing all types refrigeration. Distributor service manager. Laboratory engineer. District sales manager. Past three years have been employed by War Dept. on foreign duty. Interested in Sales Engineering work. Box 1977, Air Conditioning & Refrigeration News.

POSITIONS AVAILABLE

YOUNG MAN with knowledge of refrigeration required for export sales department with leading exporter of air conditioning equipment. Knowledge languages and export business desirable but not essential. 5 days week. Apply 4th floor, 89 Broad St., New York 4, N. Y.

REFRIGERATION ENGINEERS wanted by midwest manufacturer of refrigeration control devices. Mechanical engineering graduates preferred. Expansion of facilities has provided openings in design and laboratory development. Ample opportunity for men of ability. Write describing training and past experience. Box 1976, Air Conditioning & Refrigeration News.

WANTED—Domestic Refrigeration Engineer experienced in production, dehydration, charging, and testing of hermetic compressors and condensing units. No design work. Also junior engineer for various refrigeration and electrical tests for quality control. Good opportunity with fast-growing, well-known Midwest Manufacturer. Box 1983. Air Conditioning & Refrigeration News.

WANTED: Salesman for Refrigeration Jobbing House. Interesting proposition to man who has connections in Metropolitan Boston and vicinity. Reply to Box 1984, Air Conditioning & Refrigeration News.

EQUIPMENT WANTED

WANTED—single cylinder compressor bodies with flywheels and shut-off valves in ⅛ or ¼ hp. capacity. Any quantities, 1 to 1,000. Wire, phone, or write. REFRIGERATION MAINTENANCE CORP., 321 E. Grand Ave., Chicago, Ill., Superior 4004.

EQUIPMENT FOR SALE

REACH-IN TYPE Freezers. Polished stainless steel finish throughout. 20. 55, 75 cu. ft. capacity. Streamlined-Selfcontain with units. Electric water coolers, beverage coolers, refrigerators remote and selfcontain. Walk-in coolers, ice cream cabinets, condensing units, blower coils, water tanks. Prompt delivery. AMERICAN COMMERCIAL EQUIPMENT CO., 4150 Holly Knoll, Los Angeles, Calif.

IMMEDIATE DELIVERY. Complete Carrier 20 ton cycle complete with water chiller, reheat coils, air washer, blowers, controls, etc. Used two seasons—In warehouse. 7½ ton GE condensing unit complete with coils, blowers, precipitron, etc., used two seasons. Can see equipment in warehouse. CONTROLDTEMP EQUIPMENT SALES CO., 236 Butler St., Brooklyn 17, N. Y.

FOR SALE: 10,000 new aluminum ice cube trays in three popular sizes. Also air-cooled and water-cooled remanufactured condensing units ¼ up to 2 hp. Write for particulars. EDISON COOLING CORP., 310 E. 149th St., Bronx 51, N. Y.

BEVERAGE COOLERS: 6 ft. capacity 22 cases; 8 ft. capacity 30 cases. These are dry coolers with heavy duty coils and one forced-air fan in 6 ft. model, two in 8 ft. model. Both have stainless steel doors and trim. Immediate delivery. GENERAL REFRIGERATORS CORP., 678 Broadway, New York 12, N. Y., STuyvesant 9-1222.

SEALED WESTINGHOUSE units with shorted, leaky, or grounded terminals can be repaired by using our replacement terminals. Set of three $2.85 (Part No. 1030). Immediate delivery. Money-back guarantee. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

SEALED CROSLEY units with leaky terminals can be repaired by you in a few minutes without opening the compressor. Set of three outside replacement terminals $6.75 (Part No. 1020). Installation tool $1.65. Fits all Crosley "F-12" units. Immediate delivery. Money-back guarantee. SEALED UNIT PARTS CO., 3097 Third Ave., New York 56, N. Y.

1 H.P. MEAT & BONE Cutter Machines brand new in the original factory crates for immediate delivery. Box 1982, Air Conditioning & Refrigeration News.

"RECOLD"
WATER DEFROST

REFRIGERATION ENGINEERING Inc.
LOS ANGELES • CALIFORNIA

PURO ELECTRIC WATER COOLERS

BRANCHES IN PRINCIPAL CITIES
MAIN OFFICE
440 LAFAYETTE ST.
New York 3, N. Y.
PURO FILTER CORP. OF AMERICA
DRINKING WATER SPECIALISTS FOR 40 YEARS.

In the West it's
REFRIGERATION SERVICE INC.
Pacific Coast Supply Jobber since 1928
Your letterhead will bring our latest catalog—also our House Organ.
"The Liquid Line"
3109 Beverly Blvd.
LOS ANGELES 4, CALIF.

GENUINE MAYFLOWER
AIR CONDITIONERS

Air Conditioners Licensed Under U. S. Patents No. 2,048,246 No. 2,055,528

MAYFLOWER PRODUCTS, INC
13 S. 5th St., Richmond, Ind.

For Sale

One Floor-type YORK Industrial Air Conditioning Unit.

Type 1-York-1WV-88-A Complete, consisting of Fan, Coil, and Base Sections.

For full information address

Box 1979, Air Conditioning & Refrigeration News.

AMANA Commercial REFRIGERATION
MODERN
• FREEZER-COOLERS
• HOME FREEZERS from 5 to 123 cu. ft. food capacity
• COOLERS
Refrigeration Division
AMANA SOCIETY
AMANA, IOWA

SPECIFY...
DRYERS THAT BEAR THIS LABEL
CHARGED DAVISON'S SILICA GEL WITH
—the label that is your guarantee of maximum performance and satisfaction. Your jobber stocks it—for refilling and in factory charged dryers.

THE COLD CANVASS

Jottings from Notebooks of the Staff

Selling Frozen Foods By Telephone & Truck

Incidental information on the "Frostmaster" plan for department store frozen food merchandising, described in a recent issue of the NEWS:

Customers of the home-delivery pilot operation in Syracuse, originated by Frozen Food Products, Inc., and now run by Dey Bros. department store, are called about once every 10 days between 8:30 a.m. and 12:30 p.m. Orders are recorded by three telephone operators, who take down an average order in five minutes. The three make about 140 calls in the four hours.

In the three operations of the service—telephoning, order filling, and delivery—four forms are used: a customer call slip, a sales slip, a want slip, and an adjustment record. Customers may order by mail, in person, or by telephone. Orders are filled in an off-the-premise distribution center and deliveries made in a refrigerated "Frostmaster" truck.

* * *

You May Have To Duck a Refrigerator Someday

The housewife who would like to pick up the piano—or the refrigerator, for that matter—and throw it at her spouse, might be able to do just that thing one day in the not-too-distant future.

Not that the female of the species is growing so much stronger these days, but materials used in consumer durable goods products may become so much lighter.

Robert A. Hoffer of Du Pont's Plastics Department, speaking before the Society of Plastics Industry last week, stated that piano tops, davenports, and other articles of household furnishings could be made so light that the average housewife could handle them with ease.

This could be done through the use of low density core materials, such as cellular cellulose acetate, which first gained recognition in the famed British "Mosquito" bomber.

Panels and sections for refrigerators of all types could be fabricated from such materials. Panels of the foamy, light material may be composited and cured in 15 seconds or less by high-frequency heating, it was stated.

* * *

Cats on the Payroll Aroused Suspicions

Bob Doremus, genial chairman of the Detroit A.S.R.E. and a veteran refrigeration engineer who has been putting in big, really big, jobs for years, enjoys astounding incredulous refrigeration men by telling them what an important role cats play in the industry.

It seems that Bob was once commissioned to make a thorough and complete check on the plant and operations of one of the country's largest cold storage warehouses—located in New York City.

As he inspected the many cold storage rooms he saw cats—hundreds of them—roaming all through the warehouse. These cats had thick, sleek fur. "Resembled seal fur, in fact," recounts Bob. "And I had a queer feeling whenever I saw pairs of green eyes staring at me from dark corners.

"When I began checking over the firm's books for the year, I suddenly ran across an item listed as 'Cats . . . . . $8,000.'

" 'What's this'? I immediately inquired.

"One of the officials told me that this $8,000 item represented the cheapest insurance the company had ever been able to obtain. The cats were 'hired' by the warehouse to keep out or destroy rats and mice, which could cause a lot of damage to stored foodstuffs. The $8,000 not only included the cost of buying and feeding the cats but also the salary of the man who took care of them—a vetinarian."

* * *

The Industry Turns Up Another Winner

We're not going to permit this column to become a place where the industry's fishermen can get their stories into the record, but this is the story of a championship catch—and it wasn't sent in by the man who made the catch.

The man in the center of the picture, without nautical cap but proudly eyeing his victim, is Charlie Curtis, production chief for Copeland Refrigeration Corp. The catch is a 111-lb. white marlin, largest fish of

Charlie and His Prize

its class to be taken in Florida during the past season. On the right is Commodore V. P. Warren, from whose yacht *Annie Laurie* Charlie did his fishing. Many an industry fisherman has enjoyed the hospitality of the genial Commodore, who heads the commercial refrigerator manufacturing company in Atlanta which bears his name.

He Went To The Top, Still Got Nowhere

Wondering whether the recent construction freeze order was going to put him out of business, Emanuel Feinberg of American Thermal Industries decided to have one of his men check directly with the Civilian Production Administration in Washington.

"Manny," as his friends know him, hadn't been able to get anywhere with the Detroit CPA boys, and his man had to go to Washington on other business anyway.

So, the chap talked with everybody he could at CPA headquarters, but none of the lesser lights in the bureau had any idea what the score was. Finally, he arranged for a hearing with John Small, CPA boss man.

Small, the only man in the govenrment who really knows what the order is all about, explained:

"Sorry, but I'm too busy to discuss details."

* * *

Suggestion For Frozen Food Producers

Packers of frozen foods might well ponder the suggestion of a testy female observer at the Frozen Food Foundation's first annual meeting in Syracuse awhile back.

This visitor, who was peering through her spectacles at the label on one of the frozen products on display, suddenly addressed herself to an innocent bystander.

"Look at where this warning is," she snapped, pointing to the direction to keep the article under refrigeration. The warning, the startled bystander noted, was at the bottom of the label which wound up on the underside of the carton.

"No wonder some of this stuff doesn't turn out right," she growled. "A shopper could carry this package around for hours without knowing it should be put in cold storage."

* * *

What Veterans Are Choosing To Learn

Mechanics and engineering were among the most popular fields selected by 82,543 veterans who started their education or training in February under the G. I. Bill of Rights.

Engineering courses, including electrical, mechanical, and other types, accounted for 9,459 trainees; while mechanical education, including auto repair, attracted 8,305.

Business administration and commercial schools rated highest in preference, drawing 12,513 veterans, or 15% of the total. Other popular fields were agriculture, with 3,960; metalworking, with 3,504; and teaching, law, and construction, each with more than 1,500.

Over 80% of the new trainees entered universities, colleges, or other schools; the remainder began on-the-job training.

The largest number of on-the-job trainees preferred the broad field of mechanics, with 3,616 veterans starting of this type. Metalworking was second with 2,285. Construction with 1,214 and salesmanship with 1,082 also were popular choices.

QUICFREZ Model No. 1245 12.5 Cu. Ft. with Separate Freezing Compartment and Divided Storage.

SINCE 1939...

With a long experience background in the building of Farm Locker Plants (Farm and Home Freezers), SANITARY'S specialized skill and know-how in this field insure utmost customer satisfaction.

SANITARY REFRIGERATOR CO.

FOND DU LAC, WISCONSIN

REFRIGERATOR MANUFACTURERS FOR OVER 40 YEARS

PERFECT COMBINATIONS!

ZER-O-KIT

The ZER-O-KIT contains all of the essential materials required for the complete protective packaging of foods quick-frozen in home or farm freezers — plus illustrated information on their use.

The ZER-O-KIT, sold along with your freezer cabinet, is a PERFECT COMBINATION for you and your customer. It eliminates prolonged buyer questioning on packaging, and at the same time, provides your customer with the best, safest, easiest-to-use materials presented intelligently and completely. That is the ZER-O-KIT!

As an appliance dealer, we suggest you contact your distributor for further information. If you are a distributor, contact us — we have interesting information for your dealers and you.

YORKVILLE PAPER CO., INC.

431 East 77th Street • New York 21, N. Y.

HAM AND EGGS • BREAD AND BUTTER • PEACHES AND CREAM • PORK AND BEANS • CHEESE AND CRACKERS • SCOTCH AND SODA

CORNED BEEF AND CABBAGE

Repair Parts Granted Same Percentage Price Boost As Given to Appliances

(Concluded from Page 1, Column 5)

any of the completed articles.

OPA explained that the increases permitted on these articles under the reconversion pricing program were based on surveys of the respective industries which included sales of repair and replacement parts. The total adjustment permitted for each industry, therefore, allowed for a revision in prices of repair and replacement parts, under the same application of the reconversion pricing principle. This revision is now being made to bring into line all the elements included in the pricing of the total product.

The increase permitted for household refrigerator parts is 16.5%.

Resellers are permitted to pass the increases through to their customers by applying their usual mark-up to their adjusted costs. (This means that there will be no "price absorption" by the trade.)

Text of OPA Order On Repair Parts

(Document No. 54295)

PART 1499—COMMODITIES AND SERVICES

[SR 15, Amdt. 51]

ADJUSTMENT OF MAXIMUM PRICES

Supplementary Regulation No. 15 is amended in the following respect:

A new § 1499.75 (a) (28) is added to read as follows:

(28) **Repair and replacement parts for specified commodities—(i) Articles covered.** This § 1499.75 (a) (28) applies to those repair and replacement parts covered by the General Maximum Price Regulation, which are for use in any of the articles of consumer durable goods listed below:

Domestic cooking and heating stoves covered by Maximum Price Regulation No. 64, except electric ranges.

Domestic washing and ironing machines covered by Revised Maximum Price Regulation No. 86.

Business and office machines covered by Maximum Price Regulation No. 188.

Vacuum cleaners and attachments covered by Revised Maximum Price Regulation No. 111.

Household mechanical refrigerators covered by Revised Price Schedule No. 102 and Maximum Price Regulation No. 598.

It does not apply to replacement units and assemblies for household mechanical refrigerators when they are covered by Revised Maximum Price Regulation No. 136. It also does not apply to parts which are sold by the fabricators of the parts to a manufacturer for use in the assembly of his completed articles.

(ii) **Persons and transactions covered.** This § 1499.75 (a) (28) covers sales of repair and replacement parts described in subdivision (i) hereof to wholesalers and retailers of repair or replacement parts. For this purpose, a wholesaler is a person who is not a manufacturer as defined below and who regularly purchases such repair or replacement parts for resale to a purchaser for resale or to a person engaged in the business of repairing any articles of consumer durable goods listed above; and a retailer is a person who regularly sells the repair or replacement parts to a consumer. This section also covers sales by resellers who purchase repair or replacement parts covered by this section at prices adjusted pursuant to the provisions of this section.

(iii) **Adjustment of "manufacturers'" ceiling prices.** (a) For purposes of this § 1499.75 (a) (28) a "manufacturer" is **(1)** a person who operates a plant fabricating repair or replacement parts covered by this section, or (2) a person who is a manufacturer of the articles of consumer durable goods for which repair or replacement parts covered by this section are designed to be used, under the provisions of the regulation covering manufacturers' sales of those articles.

(b) A "manufacturer" of repair and replacement parts covered by this § 1499.75 (a) (28) who has established his ceiling price for the particular part under the General Maximum Price Regulation before April 30, 1946 or who thereafter establishes his ceiling prices under § 1499.2 of the same regulation may adjust his ceiling price so established by the percentage set forth below opposite the article for which the particular repair or replacement part is designed to be used:

Article	Per Cent
Domestic cooking and heating stoves covered by Maximum Price Regulation No. 64 except electric ranges	5.0
Domestic washing and ironing machines covered by Revised Maximum Price Regulation No. 86	9.5
Vacuum cleaners and attachments covered by Revised Maximum Price Regulation No. 111	6.0
Household mechanical refrigerators covered by Revised Price Schedule No. 102 and Maximum Price Regulation No. 598	16.5
Business and office machines covered by Maximum Price Regulation No. 188	12.0

(c) A "manufacturer" of repair and replacement parts covered by this section who delivered or offered for delivery during March, 1942 an article which meets the definition of "most comparable article" contained in § 1499.3 (a) of the General Maximum Price Regulation except that it need not be currently offered for sale, and who, because he purchased that part for resale must establish his ceiling price for the repair or replacement part under § 1499.3 (a) of the General Maximum Price Regulation after April 30, 1946, shall calculate his ceiling prices by adding to his invoice cost for the article being priced his mark-up on that comparable article computed by dividing its current ceiling price as adjusted under this section by its current invoice cost, according to the method and procedure set forth in § 1499.3 (a).

(d) A "manufacturer" of repair and replacement parts covered by this section who is currently producing or has produced within the preceding twelve months an article which meets the definition of "most comparable commodity" contained in § 1499.3 (b) (1) of the General Maximum Price Regulation and who establishes his ceiling prices for such an article after April 30, 1946 under § 1499.3 (b) (1) of the General Maximum Price Regulation shall calculate his ceiling price by applying to his current direct cost for the article being priced the percentage determined by dividing the current ceiling price of the most comparable commodity (as adjusted under this section) by the current unit direct cost of such commodity.

(e) If a "manufacturer" cannot determine his ceiling price for a repair or replacement part under any of the three preceding subparagraphs he shall apply to the Office of Price Administration for the establishment of his ceiling price under § 1499.3 (b) (2) of the General Maximum Price Regulation if he produces the part himself or under § 1499.3 (c) if he purchases the part for resale. Ceiling prices established under either of those sections will reflect either the price of the "most comparable commodity" or the supplier's prices as the case may be, adjusted in accordance with this paragraph.

(iv) **Resellers' ceiling prices.** A purchaser for resale, other than a "manufacturer" as defined above, of repair or replacement parts covered by this § 1499.75 (a) (28) who purchases such parts after April 30, 1946 shall determine his ceiling price as follows:

(a) A purchaser for resale who delivered or offered for delivery during March, 1942 an article which meets the definitions of "most comparable article" contained in § 1499.3 (a) of the General Maximum Price Regulation, except that it need not be currently offered for sale, shall determine his ceiling prices for resales of such parts by adding to his invoice cost the same mark-up he had on that comparable article, according to the method and procedure set forth in that section.

(b) If a purchaser for resale cannot determine his ceiling price under the above method, he shall apply to the Office of Price Administration for the establishment of his ceiling price under § 1499.3 (c) of the General Maximum Price Regulation. Ceiling prices established under that section will reflect the supplier's prices adjusted in accordance with this paragraph.

(v) **Filing.** The determination of a ceiling price under subdivisions (iii) **(c)**, (iii) **(d)**, or (iv) **(a)** need not be reported to the Office of Price Administration. Each seller, however, must keep complete records showing all the information called for by OPA Form 620—759 with regard to how he determined his resale ceiling price for inspection by the Office of Price Administration, for so long as the Emergency Price Control Act of 1942, as amended, remains in effect.

(vi) **Notification.** At the time of, or prior to the first invoice to a purchaser for resale of articles covered by this § 1499.75 (a) (28) showing prices adjusted or determined in accordance with this paragraph, the seller shall notify the purchaser in writing of the method established by this paragraph for determining resale ceiling prices for the articles. This notice may be given in any convenient form.

This amendment shall become effective on the 30th day of April, 1946.

Issued this 30th day of April, 1946.

PAUL A. PORTER.
Administrator.

* * *

STATEMENT OF CONSIDERATIONS INVOLVED IN THE ISSUANCE OF AMENDMENT NO. 51 TO SUPPLEMENTARY REGULATION NO. 15

The accompanying amendment permits manufacturers to adjust their ceiling prices for repair and replacement parts for certain articles of consumer durable goods. It appears that the industries producing the finished articles in each case have received or are about to receive adjustments of their ceiling prices for those finished articles pursuant to the reconversion pricing program. Those increases are granted by amendment to or an order under the regulation fixing the ceiling prices of the finished articles.

The amount of the reconversion adjustment is determined in each case on the basis of a consolidated industry profit and loss statement covering the companies included in the survey of each industry. In each case, however, the total sales figure in the consolidated statement included repair and replacement sales. When the increase factor is applied to the finished commodities only and not to the repair and replacement parts, the industries affected fail to receive the total adjustment to which they are entitled under the reconversion pricing program.

Accordingly, the accompanying amendment to Supplementary Regulation No. 15 allows those industries to adjust their ceiling prices for their sales of repair and replacement parts covered by the General Maximum Price Regulation by the same percentage adjustment they were granted in the case of the finished articles.

Manufacturers of the finished articles of consumer goods who price the repair and replacement parts which they sell under the General Maximum Price Regulation may adjust their ceiling prices for those articles regardless of whether they fabricate the parts themselves or purchase them for resale since, in either case, the proceeds from the sale of the repair and replacement parts are included in each manufacturer's profit and loss statement.

Manufacturers of parts for the articles listed in the accompanying amendment who fabricate the parts and sell directly to wholesalers and retailers are also permitted to increase their ceiling prices by the same increase factor even though they do not themselves manufacture any of the complete articles.

Resellers of repair and replacement parts covered by the accompanying amendment who purchase them at prices adjusted under the amendment are permitted to pass those adjustments through to their customers by applying their usual markup on such articles to their adjusted costs.

The tremendous variations in price and number of individual repair and replacement parts make it administratively unfeasible to institute any system of double billing such as would be necessary to bring about absorption by resellers of the increase granted manufacturers. Furthermore, the cost of many of the parts covered is so small as to be inconsequential.

Issued this 30th day of April, 1946.

PAUL A. PORTER,
Administrator.

Lige To Manage Penn Branch In Chicago

WALTER W. LIGE

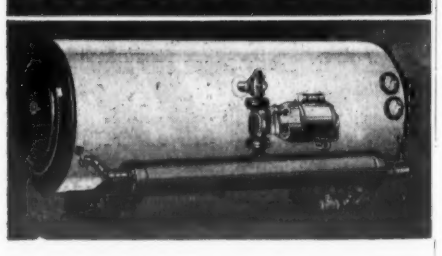
* * *

CHICAGO—Walter W. Lige has been appointed manager of the Chicago branch office for Penn Electric Switch Co. to succeed E. B. Maire, resigned, according to R. H. Luscombe, sales manager.

Before joining Penn, Mr. Lige was regional merchandise manager of Montgomery, Ward & Co. In this capacity he was in charge of sales for building materials, plumbing, and heating equipment.

Previously, Mr. Lige was associated with Bell & Gossett Co. as a field representative and later as production manager.

HIGH SUCTION PROCESS WATER COOLERS



25 to 150 gallon storage capacities.

135 to 1000 G. P. H. recovery capacities.

Suitable for bakery ingredient, jacket cooling, film processing air conditioning or other commercial cooling.

Available with or without agitator pumps.

WRITE FOR LATEST DATA

DAY AND NIGHT COOLER DIVISION
DAY & NIGHT MFG. CO.
MONROVIA • CALIFORNIA

FACTORY REPRESENTATIVES
NEW YORK — A. C. Homeyer, 682 Bdwy.
CHICAGO — Marc Shantz, 565 Wash. Blvd.
ST. LOUIS — R. H. Spangler, 3331 Market St.
ATLANTA, GA. — J. E. Parker, 2941 Peachtree, N. E.

Every Motor Repair Shop

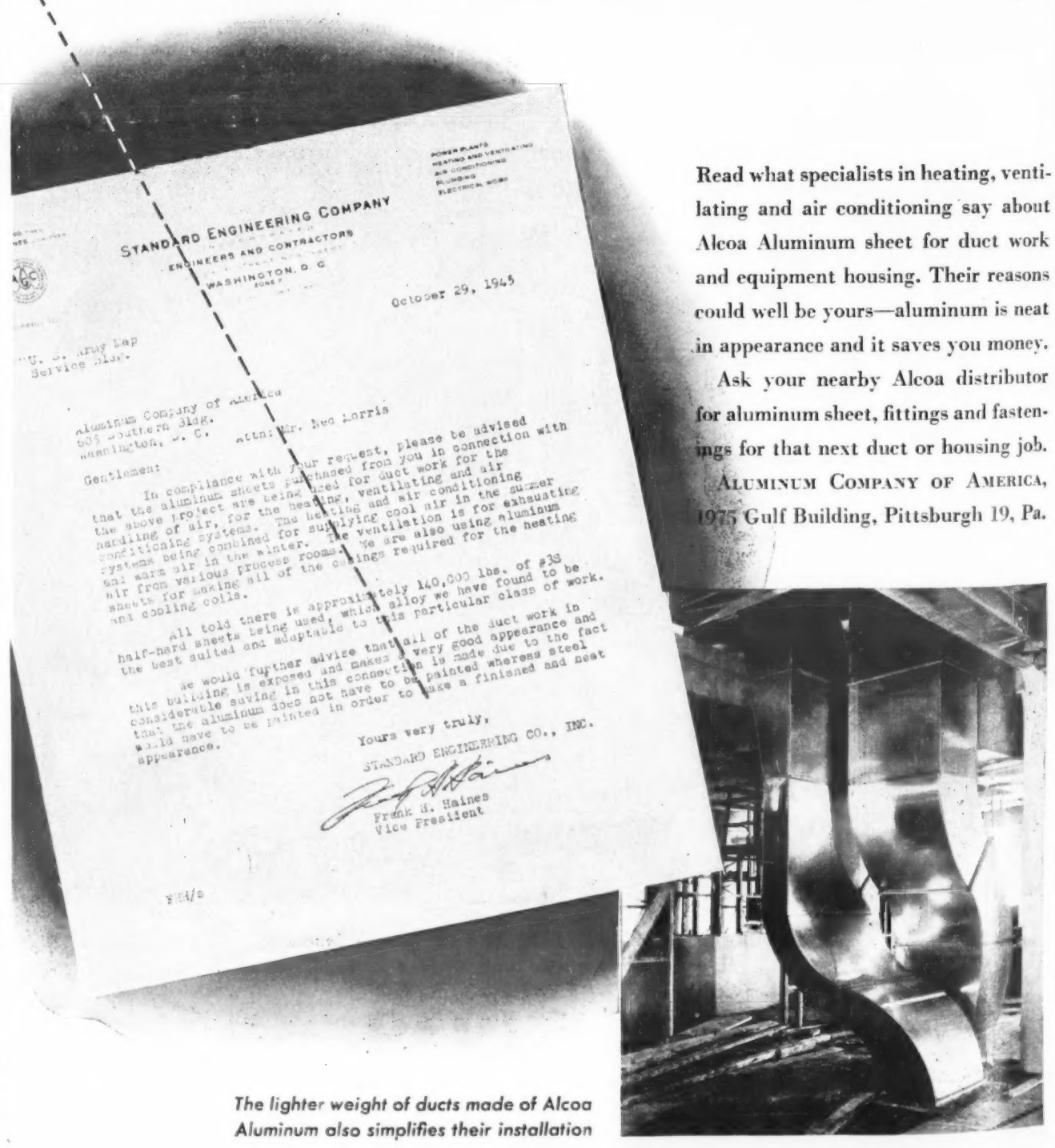
needs this fully-illustrated easy-to-read Motor Parts Catalog — form MU-40.

Send for your FREE copy today!

Wagner Electric Corporation
6441 Plymouth Avenue, St. Louis 14, Mo., U. S. A.
ELECTRICAL AND AUTOMOTIVE PRODUCTS

ALCOA ALUMINUM for duct work

"makes a very good appearance and considerable saving"


STANDARD ENGINEERING COMPANY
ENGINEERS AND CONTRACTORS
WASHINGTON, D. C.
October 29, 1945
Aluminum Company of America
Gentlemen:
In compliance with your request, please be advised that the aluminum sheets purchased from you in connection with the above project are being used for duct work for the handling of air, for the heating, ventilating and air conditioning systems. The heating and air conditioning systems being combined for supplying cool air in the summer and warm air in the winter. The ventilation is for exhausting air from various process rooms. We are also using aluminum sheets for making all of the casings required for the heating and cooling coils.
All told there is approximately 140,000 lbs. of #38 hair-hard sheets being used, which alloy we have found to be the best suited and adaptable to this particular class of work.
We would further advise that all of the duct work in this building is exposed and makes a very good appearance and considerable saving in this connection is made due to the fact that the aluminum does not have to be painted whereas steel would have to be painted in order to have a finished and neat appearance.
Yours very truly,
STANDARD ENGINEERING CO., INC.
Frank H. Haines
Vice President

Read what specialists in heating, ventilating and air conditioning say about Alcoa Aluminum sheet for duct work and equipment housing. Their reasons could well be yours—aluminum is neat in appearance and it saves you money.

Ask your nearby Alcoa distributor for aluminum sheet, fittings and fastenings for that next duct or housing job.

ALUMINUM COMPANY OF AMERICA, 1975 Gulf Building, Pittsburgh 19, Pa.

The lighter weight of ducts made of Alcoa Aluminum also simplifies their installation

ALCOA FIRST IN ALUMINUM